STATE OF ILLINOIS
ILLINOIS COMMERCE COMMISSION

Illinois Bell Telephone Company	**)**	
	)	
Filing to increase Unbundled Loop	**)**	**02-0864**
and Nonrecurring Rates	**)**	

BRIEF ON EXCEPTIONS OF AT&T COMMUNICATIONS OF ILLINOIS , INC., CIMCO COMMUNICATIONS, INC., FORTE COMMUNICATIONS, INC., MCI, INC., MCLEODUSA TELECOMMUNICATIONS SERVICES, INC., MPOWER COMMUNICATIONS CORP. D/B/A MPOWER COMMUNICATIONS OF ILLINOIS, RCN TELECOM SERVICES OF ILLINOIS, LLC, TDS METROCOM, LLC, AND XO ILLINOIS, INC.

*****PUBLIC VERSION*****

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This Brief on Exceptions to the Administrative Law Judges' ("ALJ") Proposed Order is submitted by AT&T Communications of Illinois, Inc., CIMCO Communications Inc., Forte Communications, Inc., MCI, Inc., McLeodUSA Telecommunications Services, Inc., Mpower Communications Corp. d/b/a Mpower Communications of Illinois[1], RCN Telecom Services of Illinois, LLC, TDS Metrocom, LLC and XO Illinois, Inc. (hereinafter referred to as "Joint CLECs" or "CLECs").

Joint CLECs' Brief on Exceptions addresses comprehensively all of the errors in the Proposed Order. Joint CLECs emphasize the following errors in the Proposed Order which have the greatest impacts on the recurring and non-recurring charges paid by CLECs to obtain unbundled network elements ("UNE") from SBC Illinois:

? **Fill Factors (§III.B.1)** – The Proposed Order erroneously adopts the arbitrary and empirically-unsupported set of fill factor values submitted by Staff witness Dr. Liu. The Proposed Order correctly concludes that use of SBC's current actual fill factors as urged by SBC would not be representative of an efficient, forward-looking network and would not be TELRIC compliant. There is no basis for adopting Dr. Liu's fill factors values, which represent nothing more than simple, arbitrary adjustments to SBC's actual network capacity. Instead, the Commission should adopt one of the fill factor approaches presented by Joint CLECs.

? **Cost of Capital (§III.B.3)** – The Proposed Order adopts a cost of capital based on a capitalization structure that includes too little short-term debt. SBC Illinois currently has a much higher short-term debt component in its capital structure than is reflected in the Proposed Order's cost of capital, and SBC's current level of short-term debt does not appear to be a temporary situation. The forward-looking capital structure and cost of capital adopted in this Order should include a much higher percentage of short-term debt than proposed by the ALJs.

- **Loop Installation Costs (§III.C.1, III.C.4.)** – The Proposed Order adopts SBC's use of embedded installation factors to calculate loop installation costs, despite the fact that there is no evidence that such factors provide a reliable manner to estimate average installation costs. The Commission should adopt Joint CLECs' proposed use of SBC's engineering estimation

[1]Mpower Communications Corp. filed a petition to intervene on May 14, 2004.

tool (JAM) and its Project Pronto business case to calculate installation costs for cable and digital loop carrier equipment. In addition, the Proposed Order fails to address Joint CLECs' argument that SBC's NID/Drop costs are massively overstated and should be revised with the Joint CLEC bottom-up estimates. SBC did not use linear loading factors to derive its NID/Drop costs, but instead used an overstated bottom-up estimate of NID/Drop installation costs. Therefore, if the Commission determines to use linear loading factors to calculate installation costs, the Joint CLECs (in the alternative) urge the Commission to apply that ruling to NID/Drop costs as well, in order to apply a consistent approach to installation costs.

- **IDLC/UDLC Percentages (§III.C.3.c.)** – The Commission wrongly adopted SBC's embedded (and extremely low) percentage of integrated digital loop carrier ("IDLC") facilities. The record established that IDLC loops are the least-cost, most efficient network configuration, and can be effectively unbundled.

- **Nonrecurring Charges (§IV.B.3)** – The Proposed Order, while it appropriately rejects the use of SBC's embedded OSS and, hence, its embedded fallout rates, failed to also order a commensurate reduction to the probabilities of occurrence for SBC's Support Activities which, by definition, will likewise be reduced with the adoption of a lower, forward looking rate of fallout.

- **Nonrecurring Charges (§IV.D.1)** -- The Proposed Order incorrectly adopts SBC's use of widely variant switch vendor translation times – a scenario that would not occur in a forward looking environment, where each competing vendor would strive to gain an advantage and be the best in class.

- **Shared & Common Costs – Pension Settlement Gains (§VI.B.4)** – The Proposed Order incorrectly concludes that SBC need not recognize any pension settlement gains in its common cost study despite the fact that SBC recognized pension settlements for fifteen years running, including the test year. The Commission should adopt the Joint CLECs' proposal to use average net pension settlement gains, consistent with the methodology the Commission has used in the past for expenses that vary from year to year.

- **Shared & Common Costs – Merger Savings (§VI.B.5)** -- The Proposed Order should require SBC to pass merger savings on to the CLECs via the shared and common cost markup, consistent with its prior orders and with SBC's own testimony in the Merger Savings investigation in Docket Nos. 98-0252/98-0335/00-0700 (Cons.).

- **Shared & Common Costs – Uncollectible Expense (§VI.C.2)** – The Proposed Order incorrectly adopts SBC's proposal to recover its non-UNE specific wholesale uncollectibles, which SBC admits are based on the use of estimation, discretion and judgment in a particularly risky and volatile test year. At minimum, the final Order should average the wholesale uncollectibles using data from 2001, 2002 and 2003.

- **Annual Charge Factors – Adjustment to Maintenance Expense (§VII.A.1)** – The Proposed Order incorrectly adopts SBC maintenance factor utilization adjustment, contrary to the record evidence. The record evidence convincingly establishes that there is no linear relationship between fill factors and maintenance expense. Moreover, SBC's assumption that the maintenance expense per unit should remain constant is flawed because it fails to acknowledge the fact that at higher levels of fill, fewer facilities are required to meet demand, thereby reducing overall maintenance expense.

? **Imputation (§VIII.F)** – The Proposed Order incorrectly concludes that the question of whether SBC's loop rates should and do pass an imputation test cannot be determined in this proceeding, and directs that another docket be opened to address these questions. Section 13-505.1 of the Public Utilities Act and the Commission's Part 792 Imputation rule mandate that these determinations be made in this case. Further, the record shows that SBC's business network access line ("NAL") retail rates cannot pass a proper imputation test based on either SBC's originally-proposed loop rates or on its revised (in rebuttal) proposed loop rates. Because SBC is barred by statute from raising its business retail NALs before July 1, 2005, SBC's UNE loop rates can only be increased in this case to the extent that SBC's business retail NALs continue to pass the imputation test.

In addition, Joint CLECs have re-run each of the cost studies at issue in this proceeding implementing the directives of the Proposed Order. The results of those cost study re-runs for monthly recurring charges for 2 wire analog loops in access areas A, B and C are being filed with this Brief on Exceptions and identified as Attachment 1. Joint CLECs elected to rerun only the 2 wire analog loop because the methodological issues preliminarily determined by the Proposed Order can be fully analyzed by considering only this one loop type. The results of the re-runs of the nonrecurring cost studies are being filed with this Brief on Exceptions and identified as Attachment 2. All

nonrecurring cost studies have been re-run pursuant to the directives of the Proposed Order, so Attachment 2 contains all the nonrecurring rates that should result if the Proposed Order were to be implemented as written. Joint CLECs emphasize that the rates that appear in Attachments 1 and 2 are solely the product of implementation of the directives of the Proposed Order as Joint CLECs understand those directives, and do not reflect further reductions in SBC's proposed rates that would result if the Commission adopts Joint CLECs' exceptions to the Proposed Order's conclusions. Additionally, the Joint CLECs are providing to Staff, SBC, the Attorney General and the Citizens Utility Board the Excel versions of the re-run cost studies that produced the revised rates that appear in Attachments 1 and 2 so that these parties can address in their reply briefs on exceptions the specific manner in which Joint CLECs implemented the Proposed Order's directives and the rates that result from that implementation.[2] Joint CLECs reserve their right to modify these studies as information filed by other parties is reviewed.

[2]As directed by Finding (5) of the Proposed Order, Joint CLECs will file PDF versions of the re-run studies on e-docket, as late-filed (proprietary) exhibits.

II. GENERAL ISSUES

A. Legal Requirements for Setting Rates

6. Commission Analysis and Conclusion

Exceptions

The statement "Once those rates are established, they will be incorporated into SBC's existing tariffs and will only be available to carriers that establish an interconnection agreement with SBC" should be deleted. It is unnecessary at best and wrong at worst (as discussed further in our exceptions to Section IX.A.4, below), and would likely cause confusion and further disputes. As summarized in Section II.A.1, "SBC's Position", SBC has stated that the rates approved in this case "will be incorporated into SBC's existing tariffs prior to an orderly transition away from those tariffs . . . ." Given SBC's representation, and the history of this docket (again discussed in greater detail in our exceptions to Section IX.A.4, below) there is no reason for the Order to suggest that the approved rates should not be incorporated into SBC's existing tariffs. Nor is the "orderly transition away from those tariffs" that SBC envisions a topic that is within the scope of this docket.

Finally, there are a wide variety of provisions in existing interconnection agreements between CLECs and SBC that address what rates are applicable to UNEs purchased by the CLEC pursuant to the interconnection agreement, the circumstances in which newly-approved rates become applicable, and the circumstances in which the CLEC may access SBC's tariff. CLECs and SBC should be left to the terms of their interconnection agreements (and to the provisions of otherwise applicable law) on this topic, and the Order in this case should not attempt to address it, particularly in the shorthanded but global fashion of the sentence that Joint CLECs are recommending be

deleted. Indeed, the Proposed Order correctly states in Section IX.A.4 that "the rates adopted herein do not impact existing agreements, except to the extent required by provisions within the interconnection agreements themselves."

Proposed Replacement Language

The last sentence in the first paragraph of Section II.A.6 ("Once those rates are established, they will be incorporated into SBC's existing tariffs and will only be available to carriers that establish an interconnection agreement with SBC") should be deleted.

III. UNE LOOP RECURRING COST STUDIES

A. Compliance with TELRIC-General and LoopCAT

Exceptions

The Proposed Order's summary of Joint CLECs' Position on "Compliance with TELRIC – General and LoopCAT" is incomplete and deletes a number of points that were included in the Summary of Position on this topic that Joint CLECs submitted to the ALJs – particularly with respect to Joint CLECs' evidence and arguments in response to SBC's rebuttal to Joint CLECs' evidence on the deficiencies in the LoopCAT model. Since the Proposed Order rejects the Joint CLECs' alternative recommendation that due to the massive flaws in the LoopCAT model, the Commission should continue to use the loop cost developed in the TELRIC I Proceeding, the summary of Joint CLECs' position should be as complete as possible for the Commission's consideration in deciding this issue.

Proposed Replacement Language

Section III.A.2, "Summary of CLEC Position", should be revised as follows:

It is the Joint CLECs' position that SBC has not demonstrated in this proceeding that its unbundled loop rates need to be increased. Joint CLECs stated that with respect to SBC's loop costs, SBC has not demonstrated that those costs have increased above the TELRIC costs established by the Commission in the TELRIC I Order. Joint CLECs contended that SBC failed to demonstrate any need for an increase in its UNE loop rates because, among other reasons, the new cost model it employed in this case, LoopCAT, is flawed and unreliable, and does not appropriately model, calculate and present the costs of an efficient, forward-looking network using the most advanced telecommunications technology presently available, as required by the FCC's TELRIC rules. Joint CLECs contended that the LoopCAT model is not an improvement over the previous Ameritech/SBC loop cost models. As a result, Joint CLECs stated that one alternative available to the Commission is to reject SBC's proposed UNE loop TELRIC studies and continue to use the same UNE loop TELRIC that resulted from the Commission's determinations in the TELRIC I Order.[3] Joint

[3] *Illinois Commerce Commission On its Own Motion, Investigation into forward looking cost studies and rates of Ameritech Illinois for interconnection, network elements,*

CLECs stated that under this alternative, SBC's UNE loop rates should be revised by applying to the UNE loop TELRIC the revised Shared and Common Cost factor developed by Joint CLEC witnesses Starkey and Fischer.

Joint CLECs stated that in the alternative, if the Commission determines to set loop rates in this docket using SBC's loop cost studies as a starting point, they have presented evidence comprehensively reviewing, critiquing and adjusting SBC's studies where appropriate. Under this alternative, Joint CLECs recommended that the Commission either adopt the loop costs presented by the Joint CLECs' witnesses, or adopt the adjustments proposed by witnesses for Joint CLECs, Staff and the Attorney General that correct the most egregious flaws in SBC's new loop cost model.

Joint CLECs stated that SBC's LoopCAT model is inherently flawed. Joint CLEC witnesses Starkey and Balke, who are familiar with the loop cost models previously used by Ameritech (referred to as AFAM; this model was used to generate the loop costs in the TELRIC I case) and its next-generation successor (referred to as "LFAM"), analyzed LoopCAT and compared it to these predecessor models. They concluded that LoopCAT has a number of problems that render it largely unusable for establishing appropriately forward-looking loop costs, and that it is not superior to the AFAM model relied on by the Commission in the TELRIC I case.

Messrs. Starkey and Balke testified that the LoopCAT model represents a substantial step backward from the modeling techniques used by Ameritech prior to the SBC merger. They stated that LoopCAT relies heavily on embedded loop samples, and acts as little more than a calculator used to aggregate and mathematically manage embedded network data. In contrast, they stated that AFAM used the entire inventory of cables in the feeder route network, not just a sample. Further, they noted, LoopCAT extracts only loop length information from SBC's facilities databases, and does not extract any of the section-by-section characteristics that are critical to understanding the primary cost drivers specific to the loop, such as density, tapering and engineering design. They testified that LoopCAT's reliance on embedded data is a primary defect of this model, along with its proclivity to overly average the embedded data it uses for purposes of extrapolating costs throughout the network. Messrs. Starkey and Balke stated that these defects result in loop cost estimates having little validity with respect to either SBC's actual cost data or to the costs that should result from a diligent adherence to the FCC's TELRIC methodology.

Messrs. Starkey and Balke detailed the problems they identified with LoopCAT that render it, in their opinion, largely unusable for setting appropriately forward-looking loop costs. They stated that, first, LoopCAT does not model a forward-looking network, and relies on embedded data. LoopCAT calculates average costs per study area using SBC's embedded data. LoopCAT does not re-design anything, or even model a loop network (either embedded or forward-looking). Prior to the actual operation of

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transport and termination of traffic, Dockets 96-0486 and 96-0569 (Cons.), Second Interim Order, Feb. 17, 1998 ("TELRIC I Order" or "TELRIC I Proceeding").

LoopCAT, a "pre-processor" makes such decisions as which loops are served via fiber or copper, and for the copper facilities, transmission loss and gauging calculations produce the cable mixture by gauge. They stated that as a result, LoopCAT fails to incorporate important engineering information specific to loop architecture building blocks, such as Carrier Serving Areas ("CSAs"), fails to accurately portray SBC's current engineering guidelines, and lacks any ability to re-design the loop network using efficient, forward-looking assumptions.

Second, Messrs. Starkey and Balke stated that LoopCAT's lack of information on loop architecture building blocks causes distortions in the costs it produces. They stated that LoopCAT's fundamental problem in this regard is that is cannot "build" a loop network using actual engineering architectures including feeder, CSAs and Distribution Areas ("DA") because it relies solely on samples of embedded data. They stated that the individual samples, which contain only loop length data, make it impossible for LoopCAT to "build" a loop network that uses these fundamental loop building blocks. LoopCAT is unaware of the cable section connectivity and tapering impacts of the cables it selects that would result in a well-engineered network. It is also unaware of the locations of the customers to be served in relation to individual CSAs and DAs. They stated that LoopCAT is unable to select appropriate technologies, components and sizes necessary to serve the customers, but rather relies on arbitrary inputs that are dictated by the model operator. Further, they claimed that LoopCAT is unable to aggregate usage at various "nodes" in the network, such as cable branches, or CSAs or DAs. It cannot optimally size loop components based on a forward-looking design, and cannot take advantage of economies of scale. Messrs. Starkey and Balke stated that as a result, LoopCAT has a tendency to overestimate costs.

Third, Messrs. Starkey and Balke stated that the quantity of loop data used by LoopCAT creates a false sense of confidence, because loop length data is only one of the pieces of information needed to model an efficient, forward-looking network and thereby develop a TELRIC-compliant estimate of loop costs. They noted that engineering characteristics of the loop, including the extent to which loops are served in a CSA environment, the tapering characteristics of the loops and other information is also required.

Fourth, Messrs. Starkey and Balke stated that LoopCAT does not produce meaningful geographically deaveraged costs, because it is built to use data that has been preprocessed by rate zone not by wire center, and thus does not calculate results by wire center or for other, smaller geographic areas than the three rate zones. More significantly, they asserted that LoopCAT relies heavily on averages in its inputs, which further precludes it from being able to produce de-averaged costs other than based on the existing rate zones.

Fifth, Messrs. Starkey and Balke stated that LoopCAT melds together network characteristics from unrelated sources and contains user-driven inputs which impact costs, combining data from various unrelated sources and data bases to develop outputs the data was not intended for. They asserted that this grouping of the data at a

zonal or statewide level can mask deficiencies resulting from the fact that parts of the data used may not be valid individually or may not really fit together. They noted that LoopCAT obtains data on all copper cables, undifferentiated as to what portions of the data are related to feeder or distribution loop facilities or interoffice facilities. With LoopCAT, unlabeled user-driven inputs then separate this data into feeder and distribution data (interoffice facilities are ignored). They argued that the resultant calculation, which is driven by the user input, directly impacts LoopCAT's calculations of weighted cost per copper pair for feeder and distribution cable, as well as the plant mix among aerial, buried and underground, which also has a substantial impact on the calculated loop costs. Messrs. Starkey and Balke noted that one result of these user-driven assumptions to the LoopCAT results is a high percentage of underground cable (vs. aerial and buried) in the distribution plant. Another result they noted is that all cable types of all gauges and all installation types (aerial, underground and buried) are allocated 50% to feeder and 50% to distribution. They stated that these outcomes have no relationship either to SBC's existing network or to a properly engineered network consistent with SBC's current engineering guidelines.

Sixth, Messrs. Starkey/Balke stated that the embedded data used in LoopCAT fails to reflect economies of scale and a forward-looking design. They stated that by extracting embedded cable sheath data, LoopCAT fails to reflect efficient facility sizing on a forward-looking basis. They testified that larger cables and loop components would be used in a forward-looking design rather than the smaller sizes that exist in the embedded mix; as a result, costs are affected by, for example, the use of multiple cables within a cable section, when a single larger cable would be more efficient.

Seventh, Messrs. Starkey/Balke stated that transmission loss calculations in LoopCAT develop loops that will not work properly and cannot optimize network facility locations. They pointed out that loops are designed in the "pre-processing" of cable data for LoopCAT, but many of these redesigned loops would not work properly. Messrs. Starkey and Balke's review of the loop data pre-processed for LoopCAT revealed thousands of loops in excess of 18,000 feet, which is the distance beyond which loops are generally required to have load coils to compensate for electrical capacitance. However, load coils should not be included in a forward-looking network, both because they are not consistent with the forward-looking CSA provisioning strategy and because of the limitations they impose on using the underlying copper loops for digital services such as DSL. Messrs. Starkey/Balke also noted that although SBC's Loop Deployment Policies and Guidelines indicate a 12,000 foot loop length design threshold, there are tens of thousands of loops in the LoopCAT results with lengths greater than 12,000 feet. They stated that this indicates that costs are probably too high for these loops, whereas with a properly developed forward-looking loop network design, which LoopCAT is incapable of producing, the result would be lower costs for these loops.

In addition, Messrs. Starkey and Balke testified that LoopCAT is incapable of making the decision on where to properly place DLC equipment in order for the loops it designs to work properly, or to minimize costs. For example, they stated that for the

thousands of loops in LoopCAT that are longer than 18,000 feet, a fiber-fed DLC remote terminal ("RT") would need to be placed close to the customer locations in order to reduce the excessive copper lengths. While this involves a cost trade-off of longer length cables versus greater use of DLC RTs, LoopCAT is incapable of identifying the least-cost choice. Messrs. Starkey and Balke stated that LoopCAT is incapable of performing any sort of network optimization and re-design because of its reliance on embedded loop characteristics and facility location, and because it does not incorporate an approach based on network building blocks such as CSAs and DAs.

Eighth, Messrs. Starkey and Balke identified a number of data anomalies in the pre-processed data used in LoopCAT, including duplicated length data and FDI loop appearance data that they testified cannot possibly be right. They stated that these anomalies suggest potential problems with the underlying data source, or that certain types of facilities were excluded from the data used. They also testified that another problem with the pre-processed data used in LoopCAT lies with the methodology used to pre-process the loop length data. They explained that in actually designing a loop network, cable gauge and transmission loss design decisions are not made one pair at a time, but rather are based on an overall view of the loop network and the architecture in question, and take into account cable section lengths, DA locations, customer locations, and similar information. However, they argued that because LoopCAT has no information on loop architecture building blocks, and makes design decisions one pair at a time, LoopCAT cannot make accurate transmission design decisions. They stated that this is a substantial flaw in LoopCAT's methodology.

Ninth, Messrs. Starkey and Balke stated that the installation factors used in LoopCAT cause cost distortions. They explained that within LoopCAT, installation factors are developed exclusively from databases containing embedded data, but that the use of widely averaged factors, based on historical data culled from numerous provisioning scenarios, can cause major distortions in the cost study. They testified that because most of the installation factors are developed on a statewide basis, they can distort results when applied to a more geographically-specific level such as the rate zones used in LoopCAT. They further stated that these widely-averaged installation factors also cause distortions when applied to different sizes of cables, because large and small cables have different material-to-total installed cost relationships. Messrs. Starkey and Balke gave examples of how LoopCAT's use of widely-averaged installation factors can cause cost distortions. They also pointed out that although SBC's engineering witness had testified that placing multiple cables in a location instead of a single, larger cable is in most circumstances significantly more expensive, LoopCAT, because it relies on averaged, embedded data, tends to calculate loop costs using the multiple cables in a single location. That is, they explained, the use of the average installation factor does not recognize a distinction between the more costly alternative of installing multiple cables in the same location and the less costly alternative of installing a single larger cable.

Tenth, Messrs. Starkey and Balke stated that LoopCAT includes specific costs that are already accounted for in the model through the use of installation factors, which results in double-counting of costs.

Eleventh, Messrs. Starkey and Balke testified that LoopCAT provides for a much smaller selection of fiber cable types than are in fact available to designers in the real world. They explained that the availability of numerous cable types in the real world design process enables designers to select among those options in the manner that will best meet demand and reduce costs; however, they argued that LoopCAT's inability to choose from the same range of options generally available substantially limits the applicability of its results.

Joint CLECs contended, in summary, that SBC's LoopCAT model, including the steps by which the data used by LoopCAT is "pre-processed", is seriously flawed, and as presented in this case cannot be relied on to produce reasonable, forward-looking loop costs representative of an efficient, forward-looking network (as opposed to SBC's embedded network). Joint CLECs stated that neither the input data nor the model itself is sufficient to produce rates consistent with the FCC's TELRIC methodology, and that SBC's LoopCAT-based loop costs do not satisfy SBC's burden of proof under the FCC's TELRIC rules and cannot be used to substantiate any claimed increase in SBC's loop rates. Joint CLECs concluded that in light of the problems with LoopCAT one alternative available to the Commission is simply to reject the LoopCAT results submitted by SBC and set loop rates in this case using the same TELRIC loop costs the Commission determined in the TELRIC I Proceeding.

In response to SBC's arguments that its predecessor models to LoopCAT did not properly take into account the fact that cable is only available in certain size increments and thus understated fill factors, Joint CLECs pointed out that Mr. Balke, who worked extensively with the AFAM model while an Ameritech employee, testified that the AFAM model used to produce the loop costs adopted by the Commission in the TELRIC I Order used exactly the same "cable sizing constraint" that is used by LoopCAT, although the two models perform the necessary calculations in different sequences, and would produce the same results given the same inputs. They noted that the approach attributed to AFAM by SBC in its Initial Brief is in fact the approach used by another model subsequently adopted by Ameritech, which was not the model used to produce the loop costs adopted in the TELRIC I Order.

In response to SBC's argument that the AFAM model used in the TELRIC I Order failed to account for several items of network equipment, Joint CLECs pointed out that AFAM reflected at least some of these supposedly "missing" components via the use of loop installation factors, and that SBC's witness ultimately agreed with this. With respect to SBC's reliance on a presentation made to Staff in 1999 that according to SBC showed that including the "missing" items in the prior study would result in significant increases to the loop investment and TELRIC costs per loop, Joint CLECs noted that according to Mr. Balke, who was involved in the 1999 presentation, that presentation showed the impacts of numerous new inputs and assumptions that SBC sought to use, including increased installation factors and cable and equipment prices. Mr. Balke estimated that the cost impact of the missing components only was to increase the approved TELRIC costs by less than 50 cents per loop per month, and that this increase would likely be offset by other factors that would decrease loop costs.

In response to SBC's argument that the previous models used much smaller samples of SBC's cable inventory than does LoopCAT and that those samples are aged, Joint CLECs noted that the samples used by LoopCAT are actually inferior because they only extract information on loop length from SBC's loop data bases, and do not extract any of the section-by-section characteristics of the network that are critical in understanding the primary cost drivers specific to the loop, such as density, tapering and engineering design. In contrast, AFAM extracted a much greater wealth of information on cable characteristics. They also pointed out that the loop data samples used by AFAM were statistically valid when collected. Joint CLECs noted that given SBC's assertions that it has used the same engineering standards for many years, the AFAM samples should still be valid.

In response to SBC's argument that the failure to develop costs by wire center is not important because the Commission has established three UNE loop rate zones for SBC, Joint CLECs stated that SBC failed to recognize the point that developing costs by wire center, or even smaller geographic areas, may identify opportunities for cost-effective design decisions in the forward-looking, efficient network. They stated that the existing SBC rate zones are grounded in SBC's existing, embedded network. Further, given that the FCC's TELRIC rules require that the efficient, forward-looking network be designed assuming the existing locations of the ILEC's wire centers, they noted that the failure to develop costs by wire center would seem to be a critical omission. More generally, Joint CLECs reiterated that LoopCAT is incapable of designing an efficient, forward-looking network. They noted that it is heavily dependent on embedded data about SBC's existing network and thus cannot produce or reflect the efficient facility and equipment sizing, economies of scale, efficient choices of technology (*e.g.*, fiber vs. copper) and cable sizes, optimal placement of equipment, and other considerations that one would expect to be taken into account in designing an efficient, forward-looking network that deployed the most efficient telecommunications technology available today. Joint CLECs concluded that the Commission cannot use LoopCAT's output with any confidence that it will represent the costs of an efficient, forward-looking network (assuming SBC's existing wire centers and customer locations) that TELRIC requires.

Joint CLECs further contended that the LoopCAT model, as used by SBC, deviates from the TELRIC pricing methodology on numerous significant grounds. They noted that the intent of the TELRIC methodology is to generate UNE costs that reflect a competitive wholesale environment while ensuring that competitors do not pay for inefficiencies inherent in the ILEC's monopoly network. They stated that LoopCAT does not comply with the fundamental TELRIC cost assumptions that (1) the ILEC has replaced its existing network with the least-cost, most-efficient technology and network design available, assuming that its customers and wire centers remain static (47 C.F.R. §51.505(b)(1)) (the "scorched node" approach); and (2) the use of embedded costs in TELRIC cost studies is expressly prohibited. The FCC has defined embedded costs as "costs that the incumbent LEC incurred in the past and that are recorded in the incumbent LECs books of accounts." 47 U.S.C. §51.505. Joint CLECs noted that if SBC's network was redesigned today, with full knowledge of where current demand is located, it would be able to design and route plant more efficiently than what currently

exists. They stated that SBC's present network, fill factors, and installation factors are all based upon embedded accounting data derived from a network that has resulted from piece-meal construction, using dated technology. They stated that as a matter of law, SBC's embedded data cannot be the basis for determining SBC's forward-looking costs.

Joint CLECs also stated that LoopCAT is based on embedded outside plant routing and cable sizing, which is inappropriate for three reasons: (i) In constructing outside plant to meet known demand from scratch, one can size cable more precisely to meet current demand and short-run anticipated growth; (ii) knowing current customer demand with certainty allows use of algorithms to more precisely tailor cable routings to minimize overall cable length required to meet that demand, and (iii) current service area interfaces ("SAIs") and DLC equipment service much larger areas than in the past. They stated that LoopCAT, however, "designs" and costs out the "hypothetical" network based upon SBC's inherently inefficient, embedded distribution area design and cable sizing mix. Additionally, they contended that LoopCAT fails to account for the fact that IDLC is the forward-looking technology that should be assumed in a TELRIC study, as the FCC concluded in the *Virginia Arbitration Order*.[4]

Joint CLECs stated that LoopCAT uses linear loading factors that derive installation costs based upon historic, embedded data included in SBC's accounting systems. They stated that even if linear loading factors were appropriate, SBC's reliance on historic data from its General Ledger to derive those factors violates TELRIC. They contended that SBC's installation factors are unlawfully based upon the relationship between material and installation costs of backward-looking, inefficient equipment (such as old DLCs and repeaters), which is data that reflects historical inefficient cost relationships rather than efficient forward-looking cost relationships.

Another criticism of LoopCAT advanced by Joint CLECs is that because SBC's installation costs are based on historical data, they fail to account for the economies of scale demanded by the TELRIC methodology. Joint CLECs noted that the embedded data SBC used to develop its installation factors reflect "reinforcement" jobs and thus do not reflect the economies of scale associated with large-scale network construction that should be reflected in a TELRIC study; therefore, LoopCAT tends to overstate costs.

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[4] *In the Matter of the Petition of WorldCom, Inc., Pursuant to Section 252(e)(5) of the Communications Act for Preemption of the Jurisdiction of the Virginia Corporation Commission Regarding Interconnection Disputes with Verizon Virginia, Inc. and for Expedited Arbitration*, CC Docket No. 00-218; *In the Matter of the Petition of AT&T Communications of Virginia, Inc., Pursuant to Section 252(e)(5) of the Communications Act for Preemption of the Jurisdiction of the Virginia Corporation Commission Regarding Interconnection Disputes with Verizon Virginia, Inc.*, CC Docket No. 00-251, Mem. Opinion and Order, DA 03-2738 (rel. Aug. 29, 2003) ("*Virginia Arbitration Order*").

Joint CLECs also argued that SBC overstated the relevance and importance of comments by the FCC in its *TELRIC NPRM*.[5] Joint CLECs stated that regardless of the wide array of questions posed by the *TELRIC NPRM*, the TELRIC methodology has not changed, and will not change, until the FCC actually issues an order that promulgates new TELRIC rules. They stated that the TELRIC NPRM shows at most that the FCC has only solicited comment on certain potential interpretive and policy decisions but has not changed the TELRIC rules or methodology. They noted that the FCC made it clear in the TELRIC NPRM that reference to the LEC's current network is inappropriate under the current TELRIC methodology, and thus that a focus on SBC's current network configuration is wholly inappropriate under the current TELRIC rules. Joint CLECs further noted that in the TELRIC NPRM, the FCC confirmed its commitment to forward-looking costing principles. (TELRIC NPRM, ¶¶29, 37) They also pointed out that the TELRIC NPRM confirmed the "scorched node" rule. (TELRIC NPRM, ¶49) Additionally, the Joint CLECs pointed out that the TELRIC NPRM also confirmed that a central principle of the current UNE pricing rules is that CLECs should not pay UNE rates that compensate the ILEC for past inefficiencies. (TELRIC NPRM, ¶33) Joint CLECs concluded that the TELRIC NPRM confirms that embedded costs and past ILEC network inefficiencies cannot be an appropriate basis for TELRIC costs. They stated that whatever the outcome of the TELRIC NPRM proceeding, it is clear that UNE prices must be based upon forward-looking assumptions and that this will continue to be the case.

4. Commission Analysis and Conclusion

Exceptions (Alternative)

As the evidence summarized under "CLECs' Position", above, shows, the Joint CLECs presented extensive evidence demonstrating that the results produced by SBC's current loop costing model, LoopCAT, could not be accepted as reliable estimates of the costs of a new, forward-looking efficient network comporting with the FCC's TELRIC methodology. The unreliability of the LoopCAT results was due both to flaws and deficiencies in the LoopCAT model itself, and flaws in the input data used by SBC and the methods and manner by which that data was "preprocessed" for use in the LoopCAT model. As a result, Joint CLECs offered the Commission two alternatives:

[5] FCC, *Notice of Proposed Rulemaking, Review of the Commission's Rules Regarding the Pricing of Unbundled Network Elements*, WL Docket No. 03-173, FCC 03-022A (rel. Sept. 15, 2003) ("TELRIC NPRM").

(1) completely reject SBC's UNE loop TELRIC studies that were generated using LoopCAT, and continue to use the UNE loop TELRIC that resulted from the Commission's determinations in the TELRIC I Proceeding; under this alternative, SBC's current loop rates should be revised by applying to the current UNE loop TELRIC the revised Shared and Common cost factor developed in this proceeding; or

(2) if the Commission determines to set loop rates in this docket using SBC's loop cost studies as a starting point, the Commission should adopt the corrected LoopCAT cost results presented by Joint CLEC witnesses, or adopt the adjustments proposed by witnesses for Joint CLECs, Commission Staff and the Attorney General that addressed and corrected many of the most egregious flaws in SBC's LoopCAT loop cost studies.

The Proposed Order essentially adopts the second option, *i.e.*, it determines that the LoopCAT studies should be used as a starting point but then evaluates the specific concerns with respect to SBC's loop costing and modeling on an issue-by-issue basis, adopts Joint CLECs', Staff's or the Attorney General's proposals and modifications on a number of these issues, and directs that the LoopCAT results be revised accordingly. In our exceptions relating to Section III.C of the Proposed Order, Joint CLECs take exception to a number of the Proposed Order's determinations on loop cost modeling issues.

The purpose of this alternative exception to the conclusion in Section III.A.4 of the Proposed Order is to preserve for the Commission's consideration the alternative of rejecting SBC's LoopCAT results, and the use of the LoopCAT model, in their entirety (Joint CLECs' first alternative listed above).

In this case, SBC calculated its loop costs using a new cost model, LoopCAT. Joint CLEC witnesses Michael Starkey and John Balke, who are familiar with the loop cost models previously used by Ameritech (the Ameritech Facility Analysis Model ("AFAM") and its next-generation successor, the Loop Facility Analysis Model ("LFAM")), analyzed LoopCAT and compared it to these predecessor models. (AFAM

was used to generate Ameritech's loop costs in the TELRIC I proceeding.) They demonstrated that LoopCAT has a number of problems that render it largely unusable for establishing appropriately forward-looking loop costs. Indeed, they concluded that LoopCAT is not superior to the AFAM model relied on by the Commission in the TELRIC I case.

The LoopCAT model represents a substantial step backward from the modeling techniques used by Ameritech prior to the SBC merger. (Joint CLEC Ex. 2.0, p. 31) LoopCAT relies heavily on embedded loop samples, and acts as little more than a calculator used to aggregate and mathematically manage embedded network data. (*Id*.) In contrast, AFAM used the entire inventory of cables in the feeder route network, not just a sample. (*Id*.) Further, LoopCAT extracts only loop length information from SBC's facilities databases, and does not extract any of the section-by-section characteristics that are critical to understanding the primary cost drivers specific to the loop, such as density, tapering and engineering design. (*Id*., p. 34) LoopCAT's reliance on embedded data is a primary defect of this model, along with its proclivity to overly average the embedded data it uses for purposes of extrapolating costs throughout the network. These defects result in loop cost estimates that have very little validity with respect even to SBC's <u>actual</u> cost data, let alone to the costs that should result from a diligent adherence to the FCC's TELRIC methodology. (*Id*.) Messrs. Starkey and Balke detailed the problems they identified with LoopCAT that render it largely unusable for setting appropriately forward-looking loop costs.

First, LoopCAT does not model a forward-looking network, and relies on embedded data. (Joint CLEC Ex. 2.0, p. 34) LoopCAT calculates average costs per

study area using SBC's embedded data. LoopCAT does not re-design anything, or even model a loop network (either embedded or forward-looking). In fact, prior to the actual operation of LoopCAT, a "pre-processor" – essentially, a "black box" – makes such decisions as which loops are served via fiber or copper, and for the copper facilities, transmission loss and gauging calculations produce the cable mixture by gauge. (*Id*., pp. 34-35) Thus, LoopCAT fails to incorporate important engineering information specific to loop architecture building blocks, such as Carrier Serving Areas ("CSAs"). As a result, LoopCAT fails to accurately portray SBC's current engineering guidelines. LoopCAT lacks any ability to re-design the loop network using efficient, forward-looking assumptions. (*Id*., p. 35)

Second, LoopCAT's lack of information on loop architecture building blocks causes distortions in the costs it produces. LoopCAT's fundamental problem in this regard is that is cannot "build" a loop network using actual engineering architectures including feeder, CSAs and Distribution Areas ("DA") because it relies solely on samples of embedded data. The individual samples (especially samples that contain only loop length data) make it impossible for LoopCAT to "build" a loop network that uses these fundamental loop building blocks. (*Id*., pp. 35-36) For example, while LoopCAT is aware of the lengths of the sample cable sections it selects, it is not aware of the cable section connectivity and tapering impacts that would result in a well-engineered network. It is also unaware of the locations of the customers it is attempting to serve in relation to individual CSA's and DA's. In other words, LoopCAT has no information on the network architecture building blocks that are used to properly design and develop the loops for which it has extracted (from SBC's loop databases)

information specific only to length. LoopCAT is unable to select appropriate technologies, components and sizes necessary to serve the customers. Instead, it relies on arbitrary inputs that are dictated by the model operator. (*Id*., pp. 37-38) Also, LoopCAT is unable to aggregate usage at various "nodes" in the network, such as cable branches, or CSA's or DA's. It cannot optimally size loop components based on a forward-looking design, and cannot take advantage of economies of scale. As a result, LoopCAT has a tendency to overestimate costs. (*Id*., p. 39)

Third, the quantity of loop data used by LoopCAT creates a false sense of confidence. SBC claimed that LoopCAT was reliable because it uses the universe of loop data in SBC's loop data base, rather than just a sample. (SBC Ex. 4.0, p. 23) Unfortunately, as shown above, loop length data is only one of the pieces of information needed to model an efficient, forward-looking network and thereby develop a TELRIC-compliant estimate of loop costs. Engineering characteristics of the loop, including the extent to which loops are served in a CSA environment, the tapering characteristics of the loops and other information is also required. (Joint CLEC Ex. 2.0, p. 40)

Fourth, LoopCAT does not produce meaningfully geographically deaveraged costs. This is because LoopCAT is built to use data that has been preprocessed by zone (*i.e.*, Access Areas A, B and C), not by wire center, and thus cannot calculate results by wire center (or for smaller geographic areas than the three rate zones). (Joint CLEC Ex. 2.0, p. 41) More significantly, LoopCAT relies heavily on averages in its inputs, which further precludes it from being able to produce de-averaged costs other than based on the existing rate zones. (*Id*., p. 42)

Fifth, LoopCAT melds together network characteristics from unrelated sources and contains user-driven inputs which impact costs. LoopCAT combines data from various unrelated sources and data bases to develop outputs that the data was not intended for. Grouping this data at a zonal or statewide level, as LoopCAT does, can then mask deficiencies resulting from the fact that parts of the data used may not be valid individually or may not really fit together. Further, much of the data combination occurs in the preprocessing stage. (*Id*., p. 42) For example, LoopCAT obtains data on all copper cables, undifferentiated as to what portions of the data are related to feeder or distribution loop facilities or interoffice facilities. Within LoopCAT, unlabeled user-driven inputs then separate this data into feeder and distribution data (interoffice facilities are ignored). The resultant calculation, which is driven by the user input, directly impacts LoopCAT's calculations of weighted cost per copper pair for feeder and distribution cable, as well as the plant mix among aerial, buried and underground, which also has a substantial impact on the calculated loop costs. (*Id*., p. 43) One result of these user-driven assumptions to the LoopCAT results presented by SBC in this case is a high percentage of underground cable (vs. aerial and buried) in the distribution plant. (*Id.*, p. 44) Another result is that all cable types of all gauges and all installation types (aerial, underground and buried) are allocated 50% to feeder and 50% to distribution. (*Id*., pp. 44-45) These outcomes have no relationship either to SBC's existing network or to a properly engineered network consistent with SBC's current engineering guidelines. (*Id*., p. 45)

Sixth, the embedded data used in LoopCAT fails to reflect economies of scale and a forward-looking design. By extracting embedded cable sheath data, LoopCAT

fails to reflect efficient facility sizing on a forward-looking basis. Larger cables and loop components would be used in a forward-looking design rather than the smaller sizes that exist in the embedded mix. As a result, costs are affected by (for example) the use of multiple cables within a cable section, when a single larger cable would be more efficient. (*Id*., p. 46) Messrs. Starkey/Balke gave examples of how this aspect of LoopCAT results in over-stated costs. (*Id*., pp. 47-48) As they pointed out, "Assuming that averaged embedded data correlates with a forward-looking geographic specific design is an important leap of faith that you must make in order to rely upon the results of LoopCAT." (*Id*., p. 47) For example, the forward-looking network will have fewer copper facilities and more fiber-fed DLC facilities, and a different mixture of copper cables by size, than does the embedded loop network. (*Id*., p. 48)

Seventh, transmission loss calculations in LoopCAT develop loops that will not work properly and cannot optimize network facility locations. Loops are designed in the "pre-processing" of cable data for LoopCAT, but many of these redesigned loops would not work properly. For example, Messrs. Starkey/Balke's review of the loop data pre-processed for LoopCAT revealed thousands of loops in excess of 18,000 feet (the distance beyond which loops are generally required to have load coils to compensate for electrical capacitance), with some loop lengths well in excess of 18,000 feet. (*Id*., pp. 48-49) However, load coils should not be included in a forward-looking network, both because they are not consistent with the forward-looking CSA provisioning strategy

and because of the limitations they impose on using the underlying copper loops for digital services such as DSL.[6] (*Id*., p. 49)

In addition, LoopCAT is incapable of making the decision on where to properly place DLC equipment in order for the loops it designs to work properly, or to minimize costs. For example, for the thousands of loops in LoopCAT that are longer than 18,000 feet, a fiber-fed DLC remote terminal ("RT") would need to be placed close to the customer locations in order to reduce the excessive copper lengths. While this involves a cost trade-off (*i.e.,* longer length cables versus greater use of DLC RTs), LoopCAT is incapable of identifying the least-cost choice. LoopCAT is incapable of performing any sort of network optimization and re-design because of its reliance on embedded loop characteristics and facility location, and because it does not incorporate an approach based on network building blocks such as CSA's and DA's. (*Id*., pp. 49-50)

Eighth, Messrs. Starkey and Balke identified a number of data anomalies in the pre-processed data used in LoopCAT. These anomalies include duplicated length data and FDI loop appearance data that cannot possibly be right. These anomalies suggest potential problems with the underlying data source, or that certain types of facilities were excluded from the data used. (*Id*., pp. 51-52) Another problem with the pre-processed data used in LoopCAT lies with the methodology used to pre-process the loop length data. In the real world, in designing a loop network, cable gauge and transmission loss design decisions are not made one pair at a time, but rather are

[6]In addition, although SBC's Loop Deployment Policies and Guidelines indicate a 12,000 foot loop length design threshold, there are tens of thousands of loops in the LoopCAT results with lengths greater than 12,000 feet. This indicates that costs are probably too high for these loops, whereas with a properly developed forward-looking loop network design, which LoopCAT is incapable of producing, the result would be lower costs for these loops. (Joint CLEC Ex. 2.0, p. 50)

based on an overall view of the loop network and the architecture in question, and take into account cable section lengths, DA locations, customer locations, and similar information. However, because LoopCAT has no information on loop architecture building blocks, and makes design decisions one pair at a time, LoopCAT cannot make accurate transmission design decisions. This is a substantial flaw in LoopCAT's methodology. (*Id*., p. 53)

Ninth, the installation factors used in LoopCAT cause cost distortions. Within LoopCAT, installation factors are developed exclusively from databases containing embedded data. The use of widely averaged factors, based on historical data culled from numerous provisioning scenarios, can cause major distortions in the cost study. Because most of the installation factors are developed on a statewide basis, they can distort results when applied to a more geographically-specific level such as the rate zones used in LoopCAT. These widely-averaged installation factors also cause distortions when applied to different sizes of cables, because large and small cables have different material-to-total installed cost relationships. (*Id*., pp. 53-54) Messrs. Starkey/Balke gave examples of how LoopCAT's use of widely-averaged installation factors can cause cost distortions. (*Id.*, pp, 54-55) They also pointed out that although SBC's engineering witness had testified that placing multiple cables in a location instead of a single, larger cable is in most circumstances significantly more expensive, LoopCAT, because it relies on averaged, embedded data, tends to calculate loop costs using multiple cables in a single location (*i.e*., the use of the average installation factor does not recognize a distinction between the more costly alternative of installing

multiple cables in the same location and the less costly alternative of installing a single larger cable). (*Id*., pp. 56-57)

Tenth, LoopCAT includes specific costs that are already accounted for in the model through the use of installation factors. This results in the double-counting of costs. (*Id*., pp. 62-63) Messrs. Starkey and Balke provided examples of this problem in the LoopCAT results. (*Id.* pp. 57-63)

Eleventh, LoopCAT provides for a much smaller selection of fiber cable types than are in fact available to designers in the real world. The availability of numerous cable types in the real world design process enables the designers to select among those options in the manner that will best meet demand and reduce costs. LoopCAT's inability to choose from the same range of options generally available substantially limits the applicability of its results. Again, Messrs. Starkey/Balke gave examples of how this limitation in the LoopCAT model can result in overstatement of costs. (*Id*., pp. 64-65)

In summary, SBC's LoopCAT model (including the steps by which the data used by LoopCAT is "pre-processed") is seriously flawed, and in its current form (as presented in this case) cannot be relied upon to produce reasonable, forward-looking loop costs representative of an efficient, forward-looking network (as opposed to SBC's embedded network). Neither the input data nor the model itself are sufficient to produce rates consistent with the FCC's TELRIC methodology. SBC's LoopCAT-based loop costs do not satisfy SBC's burden of proof under the FCC's TELRIC rules and cannot be used to substantiate any claimed increase in SBC's loop rates. In light of the problems with LoopCAT, one alternative available to the Commission in this case is simply to reject the LoopCAT results submitted by SBC entirely, and to utilize the same

TELRIC loop costs the Commission determined in the TELRIC I Order to set loop rates in this case.

The Proposed Order concludes that "Contrary to CLECs' assertions, we do not find LoopCAT to be inherently flawed, and, in fact, is easier to use than its predecessor." (Proposed Order, p. 27) The Proposed Order therefore would have the Commission use SBC's LoopCAT modeling results as a starting point for developing the loop TELRIC in this case, with such adjustments as the Commission adopts based on specific issues raised by other parties (and which are addressed in Section III.C of the Proposed Order). Although Joint CLECs do not believe that all the specific adjustments they proposed to SBC's LoopCAT results can completely address the fundamental flaws and deficiencies in LoopCAT, Joint CLECs would find it an acceptable outcome for purposes of this case for the Commission to adopt all of the adjustments to the LoopCAT results that Joint CLECs supported. (See Section III.C of Joint CLECs' Initial Brief and our exceptions to various conclusions in Section III.C of the Proposed Order, presented later in this Brief on Exceptions.) However, the proposed replacement language for Section III.A.4, below, can be used if the Commission concludes, after its review of the Proposed Order and the arguments of the parties, that the LoopCAT results as presented by SBC in this case are inherently flawed and unreliable, and should simply be rejected for purposes of this proceeding. In that case, SBC's UNE loop rates would continue to be based on the loop TELRIC determined by the Commission in the TELRIC I Proceeding, adjusted for the revised Shared and Common cost factor if the Commission adopts one in this proceeding.

Proposed Replacement Language

If the Commission decides to adopt Joint CLECs' first alternative proposal with respect to the use of SBC's LoopCAT results, then Section III.A.4, "Commission Analysis and Conclusion," should be deleted in its entirety and replaced with the following:

Based on our review of the record and of the parties' arguments, the Commission concludes that SBC has failed to demonstrate that its LoopCAT loop costing model and the results it produces are sufficiently reliable to be used for purposes of setting UNE loop rates in this proceeding. Joint CLECs in particular have identified a number of potentially serious flaws both with the mechanics of the LoopCAT model itself and with the manner and methods by which data is input and "preprocessed" for use in the LoopCAT model. Without intending to limit our areas of concern, we are particularly concerned with those flaws identified in the record which suggest that LoopCAT cannot in fact utilize existing wire center and customer location information and design an efficient, forward-looking network that makes use of the most efficient telecommunications technology available in a least-cost manner. We are also concerned by the considerable amount of averaging performed by the LoopCAT model, by the oversimplified assumptions it makes, and by the limited choices of fiber cable types that LoopCAT considers. Simply put, the objective under the TELRIC methodology is to design a new, efficient, forward-looking network, not simply re-price SBC's existing network at current costs. LoopCAT appears to do the latter, not the former.

In the context of this relatively expedited proceeding, it is impossible for all of the identified problems with LoopCAT to be remedied or for it to be verified that these problems are not significant or do not exist, as SBC contends. SBC has the burden of proof in this proceeding according to FCC requirements to demonstrate that its proposed costs are TELRIC compliant and that any changes are warranted in its currently-effective, Commission-approved UNE loop rates, and that burden has not been met with respect to adoption of the cost results from SBC's loop cost model. Accordingly, the Commission concludes that for purposes of this proceeding, SBC's UNE loop rates shall be set using the loop TELRIC that resulted from the Commission's determinations in the TELRIC I Proceeding. The Shared and Common factor developed in this proceeding, as discussed elsewhere in this Order, shall be applied to the existing loop TELRIC to determine the need for any changes in SBC's currently effective loop rates.

B. Major Inputs to Cost Studies

1. Fill Factors

b) CLECs Position

Exceptions

The Proposed Order's summary of Joint CLECs' position on Fill Factors is incomplete, and deletes numerous points that were included in the Summary of Position that Joint CLECs submitted on this issue. The Proposed Order then fails to address a number of these deleted points in reaching a conclusion on Fill Factors that rejects Joint CLECs' recommendations. In short, the Proposed Order deletes references to important parts of the evidence, law and argument supporting Joint CLECs' recommendations, and then rejects those recommendations without taking into account all of the evidence, law and argument supporting those recommendations.

Among the problematic aspects of the Proposed Order's summary of the evidence is that it has severely edited out discussion of Staff's direct case presentation, in which Commission Staff witnesses unequivocally supported continued use of the target fill factors adopted in the TELRIC I Order and unequivocally rejected any use of SBC's actual network capacity and fill factors, because they do not represent an efficient forward-looking network constructed using the most efficient telecommunications technology available. The Proposed Order's summary of the evidence thereby obscures the fact that the pro-SBC fill factor recommendation introduced by Staff witness Liu in rebuttal testimony – and essentially adopted by the Proposed Order – is directly at odds with Staff's direct case position. This obfuscation is exacerbated by the fact that the Proposed Order's summary of Staff's evidence is a mere two paragraphs and fails to mention important Staff testimony.[7] The final Order

[7]See Proposed Order Section III.B.1.e, where the Proposed Order states simply that Staff's position "changed over the course of time." The Commission must keep in mind, however, that *all* of Staff's testimony on fill factors was admitted into evidence and is part of the record.

should contain a complete summary of all the Staff evidence, and the Commission should explicitly address this dichotomy in Staff's position in considering whether to adopt the eleventh-hour, pro-SBC recommendation of an isolated Staff witness (who was by far the least qualified Staff witness by education and experience to testify on this topic of the four Staff witnesses who testified on fill factors[8]).

The additions to the summary of Joint CLECs' position shown in the proposed replacement language below are necessary in order for the Final Order to contain a fair and complete summary of Joint CLECs' position – and on the evidence generally – on the important issue of fill factors. In addition, the Proposed Order's summary of Joint CLECs' position on Fill Factors contains a number of scrivener's errors, which are corrected in the proposed replacement language.

Proposed Replacement Language

The summary of Joint CLECs' position on Fill Factors in Section III.B.1.b of the Proposed Order should be revised as follows:

Joint CLECs (or CLECs) offered three options for the Commission in determining what fill factors to use in calculating SBC Illinois TELRIC-based UNE loop costs in this proceeding. The first option is that the Commission use in SBC's TELRIC studies for setting its wholesale UNE prices the same fill factors that SBC uses in its retail "LRSIC" (long-run service incremental cost) studies in accordance with the Commission's Cost of Service rule, 83 Ill. Admin. Code Part 791. These fill factors are the "usable fill" factors and (as defined in 83 Ill. Admin Code §791.20(n)) represent the amount of fill if SBC's loop facilities were fully utilized except for the capacity needed for maintenance, testing and administrative purposes. The specific "usable capacity" fill factor values that Joint

[8]The other three Staff witnesses on this topic were H.R. Green, the Commission's Chief Telecommunications Engineer, who has extensive prior experience with Illinois Bell in engineering positions; Dr. Genio Staranczak, the Commission's Principal Economist, who has over 25 years experience with Bell system companies, regulatory agencies and telecommunications consulting firms in positions involving economic analysis and forecasting; and Jeffrey Hoagg, Principal Policy Advisor, who has over 15 years experience with the FCC and major state regulatory agencies.

CLECs recommend be adopted were supplied by SBC and are the fill factors that SBC has used in its most recent LRSIC studies for retail services.

Joint CLECs' second option is to use the same fill factors that the Commission adopted in the TELRIC I Order. These fill factors are the "target fill" factors and represent the point of network utilization at which it becomes more cost effective for SBC to install new capacity to meet growth in demand rather than to continue to fill existing facilities. Joint CLECs' third option is to use the "forward looking actual fill" factors proposed by Staff witness Dr. Liu, as adjusted by Messrs. Starkey and Fischer, to remove the effects of observed inefficiency in SBC's network. A table at page 50 of Joint CLECs' Initial Brief shows the fill factors for major components of the network under Joint CLECs' three options.

Joint CLECs summarized provisions of FCC orders and this Commission's TELRIC I Order bearing on the determination of appropriate fill factors in a TELRIC study. In the Local Competition Order,[9] where the FCC adopted the TELRIC Methodology for setting the prices for UNEs, the FCC stated:

> We conclude that under a TELRIC methodology, incumbent LECs' prices for interconnection and unbundled network elements shall recover the forward-looking costs directly attributable to the specified elements, as well as a reasonable allocation of forward-looking common costs. Per units costs shall be derived from total costs using reasonably accurate "fill factors" (estimates of the proportion of a facility that will be "filled" with network usage); that is, the per-unit costs associated with a particular element must be derived by dividing the total cost associated with the element by a reasonable projection of the actual total usage of the element. (¶682)

CLECS point out that the FCC ruled in the Local Competition Order that only forward-looking, incremental costs shall be included in a TELRIC study. Costs must be based on the incumbent LEC's existing wire center locations and most efficient technology available. (¶690) Further, the FCC stated that:

> In a TELRIC Methodology the "long run" shall be a period long enough that all costs are treated as variable and avoidable. This "long run" approach ensures that rates recover not only the operating costs that vary in the short run, but also fixed investment costs that, while not variable in

[9] FCC, *In the Matter of Implementation of the Local Competition Provisions in the Telecommunications Act of 1996*, CC Docket No. 96-98, First Report and Order, FCC 96-325 (rel. Aug. 8, 1996) ("Local Competition Order").

the short term, are necessary inputs directly attributable to providing the element. (¶692)[10]

Joint CLECs also noted that the FCC also emphasized that embedded costs are not to be included in the forward-looking costs that are used to set UNE prices. (Id., 704-707; see 47 C.F.R. §51.505(d)(1))

Joint CLECs noted that in its TELRIC regulations, the FCC expressed the concept of "forward-looking economic costs per unit" as follows:

> The forward-looking economic cost per unit of an element equals the forward-looking economic cost of the element, as defined in §51.505, divided by a reasonable projection of the sum of the total number of units of the element that the incumbent is likely to provide to requesting telecommunications carriers and the total number of units of the element that the incumbent LEC is likely to use in offering its own services, during a reasonable measuring period. (47 C.F.R. §51.511(a))

Joint CLECs stated that in this Commission's TELRIC I case, three different approaches to fill factors were identified to the Commission: actual fills, usable capacity fills and target fill factors. (TELRIC I Order, p. 29) Focusing its attention on the "usable capacity" and "target fill" approaches, the Commission concluded that it should utilize the "target fill factor" approach that was advocated in that case by Ameritech. :

> We will adopt the "target" fill factors as suggested by [Ameritech witness] Mr. [William] Palmer, because we agree with him that TELRIC-based prices are reasonably based on the "optimal usage level above which it is more cost effective to add plant and capacity rather than increase the utilization of existing plant."

However, in the TELRIC I Order, the Commission implemented the target fill factor concept by adopting the specific values proposed by Commission Staff, using the same standard that Ameritech witness Palmer had proposed. The Commission stated that this methodology would "take into account the emerging unbundled environment appropriately and adequately.":

In addition, in rejecting proposals to conduct additional proceedings to consider additional methodologies for determining "projections of actual use" in accordance with the Local Competition Order, the Commission stated in the TELRIC I Order: "If local exchange competition is to develop, potential competitors require a stable pricing environment within which to develop business plans. That will not be possible if we are relitigating significant assumptions underlying price." (TELRIC I Order, p. 29)

[10]This paragraph is a direct quotation from the FCC's Local Competition Order but is not presented as a quotation in the Proposed Order.

Joint CLECs stated that in this case, SBC is urging the Commission to depart from the approach it adopted in the TELRIC I Order (the approach SBC advocated in that case) and to use instead SBC's current actual fill factors. Joint CLECs stated that the "current actual" fill factors that SBC proposes are, for all components of the network, significantly less than the fill factors the Commission adopted in the TELRIC I Order. They noted that adoption of the fill factors proposed by SBC in this case would result in a substantial increase in the existing UNE loop rates even if no other changes were made to the cost studies approved in the TELRIC I Order. Joint CLECs contended that SBC failed to meet its burden to show that use of its current actual fill factors would be representative of the forward-looking costs of an efficient network that utilizes the most efficient telecommunications technology currently available and the lowest cost network configuration given the location of SBC's existing wire centers, as required by the FCC's TELRIC pricing rules. (47 C.F.R. §51.505(b)) They noted that witnesses for CLECs, Commission Staff, the Attorney General and the Citizens Utility Board unanimously opposed use of SBC's current actual fill factors as not TELRIC-compliant.

Joint CLECs stated that, like SBC, Staff witness Dr. Liu also proposed a departure from the fill factor method the Commission adopted in the TELRIC I Order. Dr. Liu proposed a concept, apparently heretofore not adopted by any other state commission, that she called "forward-looking actual fills". However, her new method proved to be incapable of implementation. Joint CLECs stated that the fill factor values Dr. Liu ultimately proposed were nothing more than SBC's actual fill factors to which she applied modest upward adjustments that were utterly arbitrary and totally lacking in empirical support. Joint CLECs stated that Dr. Liu's proposed fill factors must be rejected as being totally devoid of any credible basis.

Joint CLECs' First Option: Usable Capacity Fill Factors

Joint CLECs recommended that the Commission use SBC Illinois' "usable capacity" fill factors for purposes of setting its UNE loop rates. "Usable capacity" is the maximum physical capacity of the network less any capacity that is required for maintenance, testing and administrative purposes. Usable capacity fill factors represent the optimal usage capable of being sustained from an engineering perspective. Usable capacity fill factors therefore represent a network whose capacity is fully utilized to serve demand except for that capacity that is needed for maintenance, testing and administrative purposes to operate the network.

Joint CLECs stated that the process prescribed by the FCC for calculating TELRIC-based rates requires that the ILEC design and construct (conceptually) a forward-looking, least cost network that relies upon the most efficient technology and configuration available sized consistent with a reasonable projection of its total demand. After having sized the network accordingly (and subsequently developing the total costs for such a network) the ILEC is then required to develop "per-unit costs" by dividing its total network costs by the projection of total demand used to size the network. Because the forward-looking network will include only the latest technology (capable of being deployed very modularly), and will be sized based on a known quantity of demand (*i.e.*, the projection of its total demand), the only constraints that keep the ILEC from building

the (hypothetical) forward-looking network with nearly perfect (*i.e.*, 100%) utilization of capacity are the maintenance, testing and administration requirements that necessitate that some capacity be set aside for these purposes. Joint CLECs stated that, accordingly, "usable capacity" fill factors represent the most reasonable interpretation of the FCC's fill factor requirements for TELRIC studies.

Joint CLECs stated that ¶682 of the Local Competition Order specifies that "the per-unit costs associated with a particular element must be derived by dividing the total costs associated with the element by a reasonable projection of the actual total usage of the element," while ¶685 correspondingly requires that the reconstructed local network employ the most efficient technology for "reasonably foreseeable capacity requirements". They stated that the "actual total usage" referred to in ¶682 is the demand that must be considered in developing per-unit costs, not the actual level of fill or utilization. Thus, Joint CLECs stated that developing a fill factor in accordance with the FCC's directives in the Local Competition Order requires calculation of the actual demand divided by the most efficient amount of network capacity required to support it. They stated that that is exactly what "usable capacity" fill factors represent – the most efficient (complete) utilization of the network, with the network's capacity fully utilized to serve demand except for the capacity needed to be kept aside (in accordance with sound engineering and economic guidelines) for maintenance, testing and administrative purposes.

Joint CLECs stated that arguments that the "usable capacity" fill factors are not consistent with TELRIC requirements because they do not provide for unused capacity to serve long-term, future "ultimate" demand are misplaced. They stated that to calculate fill factors by including sufficient capacity in the forward-looking network to serve long-term, "ultimate" demand (and dividing that capacity amount into current actual demand) would be economically unsound, and would not be consistent with the TELRIC requirement to assume an efficient, forward-looking network. Joint CLECs stated that inclusion of long-term "ultimate" demand in the capacity component (denominator) of the fill factor calculation (along with current capacity in the numerator) would essentially force current customers to pay for capacity to be used to serve growth in usage by future customers. In contrast, argued the Joint CLECs, the usable capacity fill factors represent an efficient network that is sized to meet demand in the most efficient manner, i.e., with no excess capacity.

Joint CLECs also pointed out that the FCC's Local Competition Order requires use of "reasonably foreseeable capacity requirements." They noted that the FCC stated in its recent TELRIC NPRM that this necessitates the consideration of at most anticipated short-term growth, but not long-term growth or "ultimate" demand:

> The Local Competition Order provides no guidance to state commissions on this specific issue beyond the general requirement that the network should be sized to meet reasonably foreseeable demand. In the USF Inputs Order, the Commission established forward-looking fill factors based on current demand, which it defined to include excess capacity for

short-term growth, rather than on ultimate demand, which it found to be too speculative. (TELRIC NPRM, ¶73)[11]

Joint CLECs stated that the FCC has made it clear that for purposes of determining fill factors, it is reasonably foreseeable short-term demand that must be considered, not "speculative" long-term or "ultimate" demand. (See AT&T/Joint CLEC Ex. 1.2, pp. 79-80) They stated that "usable capacity" fill factors satisfy these requirements.

Joint CLECs stated that another reason for using SBC's usable capacity fill factors to calculate its wholesale UNE rates is to achieve consistency between the fill factors used in the wholesale costing/pricing studies and the fill factors used in SBC's retail costing/pricing studies. They noted that when calculating costs for purposes of its retail cost studies, including LRSIC studies required by Code Part 791, SBC uses usable capacity fill factors. They stated that there is no reason from an engineering or economic viewpoint that the same fill factors should not be used in both wholesale and retail costing/pricing studies. They noted that SBC uses the same network, technicians and OSS platforms and methods to provide both its retail and its UNE products and services. The costs SBC incurs to provision a given network element (whether unbundled to be provided at wholesale or provided as a component of a retail service) are the same. SBC does not engineer its network with different capacity assumptions for wholesale and retail customers. Therefore, there is no reason to assume different amounts of spare or unused capacity in the network in cost studies that are conducted for retail and wholesale purposes.

Joint CLECs further contended that an objective of the FCC's TELRIC methodology is to enable CLECs to share in the economies of scale and scope that the ILEC enjoys in providing its retail services, so that the ILEC and its competitors can compete on a level playing field. They stated that this objective is thwarted if SBC is allowed to develop costs for its retail services using markedly different inputs and assumptions than it uses to develop its UNE costs, since the same facilities are used for both, and the costs to provide the retail and the wholesale product should be identical. They stated that allowing SBC to use fill factors values to set its UNE prices that are lower than the usable capacity fill factor it uses in its retail LRSIC studies will enable SBC to set low price floors for its retail services (and thereby to set lower prices for products and services for which it faces competition), while allowing SBC to impose much higher costs and prices for the same network components on its UNE-purchasing competitors. They stated that using the same fill factors for both wholesale and retail studies will avoid this outcome. Joint CLECs pointed out that in the recent rulemaking to amend Code Part 791, SBC had advocated the use of consistent assumptions for fill factors (as well as for cost of capital and economic lives) in both LRSIC and TELRIC studies.

[11] This paragraph is a direct quotation from the FCC's TELRIC NPRM, but is not presented as a quotation in the Proposed Order.

Joint CLECs noted that for the most impactful ~~some~~ network components, the usable fill factors are only 5% to 6% above the fill factor values adopted by the Commission in the TELRIC I Order. They stated that use of the usable fill factors should have only a modest impact on the currently-effective UNE loop prices and would be consistent with the objective of rate stability which is critical to continued development of a competitive local exchange market.

Joint CLECs' Second Option: Target Fill Factors Adopted in the TELRIC I Order

Joint CLECs stated that if the Commission decides not to adopt usable capacity fill factors in this case, then it should continue to use the target capacity fill factors that it adopted in the TELRIC I Order. Target fill factors represent the level of network utilization at which it would be more cost-efficient for the carrier to supplement its network (add new capacity) rather than to increase the amount of utilization on its existing facilities. Joint CLECs pointed out that in the TELRIC I case, the Commission decided, after extensive analysis, that modified versions of Ameritech Illinois' target fill factors best satisfied the FCC's forward-looking cost methodology. (TELRIC I Order, p. 34)

Joint CLECs emphasized that the "target fill factor" concept adopted in the TELRIC I Order was proposed by Ameritech. They noted that Ameritech's fill factor witness in that case testified that Ameritech had purposely constructed its target fill factors to accommodate the additional demands of unbundling and increased customer churn resulting from the 1996 Act, as well as the FCC's definition of fill factors in the Local Competition Order. They pointed out that the Ameritech witness testified that the target fills realistically reflect efficient network use and are appropriate for the development of forward looking economic costs and reflect the qualitative change in methodology from usable to "reasonably accurate" fill. They stated that Ameritech had therefore recognized the appropriateness of the target fill factor concept to satisfy the FCC's TELRIC requirement that "per-unit costs shall be derived from total costs using reasonably accurate "fill factors" (estimates of the proportion of a facility that will be "filled" with network usage". (Local Competition Order, ¶682) Joint CLECs further noted that the Commission had agreed with Ameritech's proposal:

> We will adopt "target" fill factors as suggested by Mr. Palmer, because we agree with him that TELRIC-based prices are reasonably based on the "optimal usage level above which it is more cost effective to add plant and capacity rather than increase the utilization of the existing plant." (TELRIC I Order, p. 34)

The Commission also concluded in the TELRIC I Order that "the difference between usable capacity and target capacity provides capacity to meet growth. When the target is reached more capacity needs to be added." (*Id*.)

Joint CLECs stated that continued use of the target fill factors the Commission adopted in the TELRIC I Order was endorsed by witnesses for parties other than the CLECs. They pointed out that in his direct testimony, Commission Staff witness H.R.

Green, the Commission's Chief Telecommunications Engineer, recommended that the Commission continue to use the fill factors it ordered for SBC in the TELRIC I Order in determining SBC's UNE rates. Additionally, Attorney General witness William Dunkel recommended that the Commission continue to use the fill factors for SBC Illinois that the Commission adopted in the TELRIC I Order.

Joint CLECs stated that continued use of the target fill factor values would promote stability and continuity in SBC Illinois' UNE loop prices. They stated that this consideration is particularly important given the significant impact that the fill factor values used (and any change in fill factor values) will have on the overall UNE rate calculation.

In their Reply Brief, Joint CLECs responded to various criticisms made by Staff with respect to the use of both usable capacity fill factors and target fill factors. Joint CLECs noted in particular that Staff placed great emphasis, both in discussing "usable capacity" and throughout the Fill Factors section of its Initial Brief, on the fact that there are fixed and sunk costs associated with loop deployment (a phrase that Staff essentially used to encompass the concept that there are efficiencies and economies associated with installing network facilities in advance of the actual manifestation of demand). Joint CLECs responded that while this is true with respect to the embedded network it is not correct with respect to the TELRIC network, because the FCC's methodology assumes that all costs are variable: "In a TELRIC Methodology, the "long run" used shall be a period long enough that all costs are treated as variable and avoidable." (Local Competition Order, 692) Moreover, Joint CLECs noted that Staff failed to shed any useful light on the question of how much fixed and sunk costs (if any) would be appropriate in an efficient, forward-looking network. They noted that Staff (i.e., Staff witness Liu) failed to cast a critical eye on SBC's actual engineering practices or on the manner in which SBC has determined how much fixed and sunk costs (i.e., excess capacity) should be incurred. They pointed out that Messrs. Starkey and Fischer had explained that the efficient forward-looking network employing the most efficient telecommunications technology available will have much less need to incur significant fixed and sunk investment (that is not currently serving customer demand) than has historically been the case in SBC's actual network. (Joint CLEC Reply Br., p. 48)

Joint CLECs pointed out that Staff's criticisms of usable capacity fill factors ignored the fact that the TELRIC principle is to base UNE prices on the efficient network. They reiterated that "usable capacity" fill represents the point of most efficient utilization of the network, and properly incorporates the TELRIC requirement that the efficient forward-looking network be sized based on "a reasonable projection of the actual total usage". (Local Competition Order, 682) They noted that Staff's arguments took into account the need for the network to be sized to meet a reasonable projection of future demand (on the capacity side), but completely ignored that future demand in the fill factor calculation.

Joint CLECs emphasized that a fundamental flaw in Staff's (Dr. Liu's) criticisms was the inappropriate mixing of static and dynamic concepts of network capacity and demand. They noted that Dr. Liu did not make this same mistake in her theoretical

exposition of her own proposed "forward-looking actual fill factor" method. Joint CLECs noted that it is critical that both primary components of the analysis – demand and network size – be consistent, i.e., both must be either static or dynamic, when developing the fill factor in accordance with TELRIC. They stated that once this fact is recognized, it becomes apparent that usable capacity fill factors (or target fill factors) are appropriate fill factors in an efficient, forward-looking network for which all costs are variable. That is, if (1) both the size of the forward-looking network and the demand accommodated by that network are analyzed at a specific point in time and (2) the network is sized specifically to meet that level of demand, it is only logical that the efficient network would be sized so as to maximize its capabilities, i.e., operation at the usable capacity level.

Finally, Joint CLECs responded to Staff's position on Joint CLECs' argument that the fill factor approach used for TELRIC studies should be consistent with the fill factor approach used for LRSIC studies. Joint CLECs pointed out that Staff's position seemed inconsistent with Staff's position in the recently completed Part 791 rulemaking, Docket 99-0535, in which the Commission's LRSIC rules were under review. Joint CLECs noted that in that case, CLECs raised the same issue about the need for consistency between the inputs used in LRSIC and TELRIC studies, and Staff agreed that the inputs used in LRSIC studies and in TELRIC studies should be consistent. However, in that case, Staff did not believe that the LRSIC rulemaking, Docket 99-0535, was the most appropriate venue in which to establish consistent inputs. Instead, Staff pointed the Commission to its next available opportunity to review SBC's TELRIC cost studies, and indicated that that proceeding (which has turned out to be this docket) would be the most appropriate place to insure consistency. Joint CLECs objected to the fact that in the proceeding that Staff said would be the appropriate place to develop consistent inputs for use in SBC's LRSIC and TELRIC studies (i.e., this one), Staff was taking the position that consistency should not be achieved in this case, either.

Joint CLECs' Response to SBC's Proposal to Use its Current Actual Fill Factors

Joint CLECs strongly opposed SBC's proposal to use its current actual fill factors in calculating its UNE loop prices. They stated that adoption of SBC's proposal would have a tremendous upward impact on the prices that CLECs pay to SBC to lease UNE loops that the CLECs employ to provide competitive local exchange service to retail customers in SBC Illinois' service area. They stated that use of SBC's current actual fill factors would not be compliant with the FCC's TELRIC requirements.

Joint CLECs stated that the fundamental premise behind SBC's proposal is that SBC's current actual fill factors are equivalent to the utilization that would be experienced on a newly-constructed, forward-looking network that used the most efficient telecommunications technology available, taking into account reasonable projections of reasonably foreseeable capacity requirements. They stated that this proposition is illogical on its face. They noted that SBC's existing network has been designed and constructed over a period of at least 100 years, using myriad engineering techniques and technologies. (AT&T/Joint CLEC Ex. 1.0, p. 176) The existing network has been designed and constructed to serve projected demand levels that have proved

to be too high in some cases, too low in others, and fairly accurate in still others. In some areas demand levels have receded due to economic or demographic changes leaving excess capacity. SBC's existing network has been supplemented and re-designed to account for population growth that has shifted, expanded and contracted literally hundreds of times over its more than 100 year history. Joint CLECs contended that SBC's existing network does not mimic a "forward-looking network", and that the actual level of fill that SBC is able to maintain on that network at any given point in time bears no relationship to the utilization rates that could be achieved in an efficient, forward-looking network that was designed and costed consistent with the FCC's TELRIC rules.

Joint CLECs stated that in the past 30 years alone, SBC Illinois has substantially changed the manner by which it engineers and builds its local loop plant, changing from multi-party lines and multi-appearance plant to a more economical and efficient Carrier Serving Area ("CSA") design. They noted that over the years, SBC Illinois has also adopted newer, more efficient design practices and installed newer and more efficient equipment, which enable it to serve its customers with fewer facilities and reduced levels of spare capacity in the network. They pointed out, however, that a large portion of SBC's existing network was built before newer, more efficient design practices and technologies were developed, and those older portions of its network still represent design and technology that is decades old. Thus, when SBC simply measures its current actual fill at any given point in time, some portion of the fill factors that results is directly impacted by the presence of the older, less efficient technology. As another example, Joint CLECs observed that today and on a going forward basis, SBC Illinois only deploys next generation digital loop carrier ("NGDLC") equipment in its outside plant when it replaces traditional copper feeder cables with fiber optics and loop electronics (*i.e.*, digital loop carrier ("DLC")). However, within its existing network, SBC continues to use and maintain older, less efficient DLC equipment. Joint CLECs stated that newer NGDLC equipment requires fewer facilities to provision the same number of services. As a result, NGDLC equipment requires far less spare capacity to meet consumer demand and allows SBC to more closely match its facility investments to more precise levels of consumer demand, *i.e.*, it allows SBC to maintain higher levels of utilization than is possible with older equipment. They stated that, additionally, NGDLC is far more modular than SBC's older DLC equipment. Thus, with NGDLC equipment, SBC can initially install a relatively small amount of capacity, and then add to that capacity as demand materializes. As a result, NGDLC equipment permits a reduction in the amount of spare capacity needed in the network at any point in time. Older DLC equipment and systems are not so modularly designed and require a larger amount of spare capacity to meet growth in demand (*i.e.*, older DLC systems are not capable of maintaining the same higher levels of utilization as newer NGDLC equipment).

Joint CLECs stated that it would only be by coincidence that SBC's current actual fill factors matched the utilization levels of a newly-constructed, efficient, forward-looking network. They stated that SBC, which has the burden of proof to show that its proposed costs meet TELRIC requirements, has not shown that this coincidence has occurred. They stated that the actual fill factors in SBC's existing legacy network are levels of utilization that do not reflect the newer equipment, and more efficient network design,

that should be used exclusively in forward-looking cost studies comporting with the FCC's TELRIC requirements. Joint CLECs concluded that SBC's approach does not comport with the FCC's TELRIC requirement that UNE prices shall be based on a "reconstructed local network [that] will employ the most efficient technology for reasonably foreseeable capacity requirements." (Local Competition Order, ¶685)

Joint CLECs pointed out that witnesses for both CUB and the Attorney General also testified that use of SBC's actual fill factors to calculate its UNE prices would not be representative of an efficient, forward-looking network. One reason this is the case is that there is less population in some areas than the network was originally designed for. Both Attorney General witness Mr. Dunkel and CUB witness Ms. Baldwin pointed out that SBC's low actual fill factors would result in SBC customers paying for an excessive amount of spare capacity on SBC's network. Ms. Baldwin noted that SBC's long-standing planning criteria do not correspond to efficient forward-looking practices nor with the business practices of an efficient competitor (which a TELRIC study is intended to model), which would be to adjust capital investment decisions to correspond better with changing consumer demand. She pointed out that designing a TELRIC model with the large percentage of spare capacity that SBC proposes would violate basic principles of economic efficiency.

Joint CLECs emphasized that Commission Staff witnesses testified that SBC Illinois failed to demonstrate that its current actual fill factors are the same as the fill factors that would be found in an efficient, forward-looking network or that its fill factors satisfied the FCC's TELRIC requirements. They noted that Staff witness Jeffrey Hoagg explained that SBC Illinois' proposed method of estimating forward-looking projected fill factors is not conceptually consistent with TELRIC requirements. He noted that there are at least two fundamental problems with SBC's position that the best estimators of projected TELRIC fill factors are SBC's current actual fill factors, and that each of those problems provide sufficient grounds for the Commission to reject SBC Illinois' proposed fill factors: (1) SBC presented no evidence that its actual fills are equivalent to (or consistent with) those of an efficient firm; and (2) SBC's proposed method of calculating per unit costs for each element directly violates the TELRIC requirement that the divisor used to calculate per-unit costs reflect a reasonable projection of the forward-looking demand for the element; rather, SBC divides element costs by current demand levels for each element. Mr. Hoagg concluded that, due to SBC's failure to adhere to TELRIC principles, SBC's approach underestimates the proper TELRIC fill factors and over-estimates TELRIC-based UNE rates. This occurs because (i) SBC overestimates the numerator of the per-unit cost calculation by using something more than current demand levels to estimate aggregate costs associated with each element (that is, SBC does not size the model network to efficiently meet current demand, but simply models costs based on the current size of the network), while at the same time (ii) SBC *understates* the *denominator* of the per-unit calculation to the extent that the current demands SBC uses in its fill factor calculation are less than projected demand levels.

Joint CLECs stated that Staff witness H.R. Green, Chief Telecommunications Engineer of the Commission, had comprehensively addressed the fact that SBC's current actual fill factors are not the same as the fill factors that would be expected in an

efficient, forward-looking network. They pointed out that Mr. Green testified that "current embedded fill rates are reflective of either historical or current fills and are not necessarily reflective of an efficient network. Thus, current embedded fills would be inappropriate to use as fill factors for determining UNE rates." Mr. Green also concluded that SBC's "current embedded fills, however, have not been demonstrated . . . to be consistent with an efficient, forward-looking network." As this Staff witness further explained:

> The reason that the use of current embedded fills is not necessarily consistent with an efficient, forward-looking network is that there is no evidence that the current fills are indicative of an efficient network today, let alone a forward-looking network. The current embedded network from which the current fills have been determined is a network that has evolved over decades. . . . Facilities engineered in the past did not include the consideration of the current or future demands for developing technologies. As a matter of fact, today's demands are causing the telecommunications carriers to redesign some of the existing plant. . . . [T]he type of efficient forward-looking network planning expected in a TELRIC study *could not* be planned using the planning tools and capabilities available to the engineers decades ago who designed much of the embedded network. (Staff Ex. 10.0, pp. 8-9; emphasis in original)

Based on these considerations, Staff witness Mr. Green concluded that SBC's current embedded network does not reflect a forward-looking efficient network.

Joint CLECs noted that Staff witness Mr. Green also disagreed with SBC's assertion that its actual fills are fairly consistent over time and that the current utilization levels on SBC Illinois' existing network are the best predictors of future utilization levels. He pointed out (as did Ameritech in the TELRIC I case) that there are demand shifts over time due to factors such as changes in population size, growth, density and changes in technology; as a result, SBC's "confidence that fills are fairly consistent over time is misplaced." (Staff Ex. 10.0, p. 10) Joint CLECs disputed SBC's assertion that its actual fill factors have been fairly constant over time. Joint CLECs stated that SBC only provided actual fill factor data for the period December 31, 1998 through December 31, 2001. (SBC Ex. 8.0, p. 24 and Sched. RSW-11) They stated that this limited data series is woefully inadequate to substantiate any claim that SBC's fill factors are constant over time. They also stated that even if SBC's assertion could be substantiated by data, it would not establish that SBC's current actual fill factors are representative of the utilization levels that would be found in an efficient, forward-looking network but in fact would tend to establish just the opposite. Joint CLECs noted that Staff witness Mr. Green agreed with this, stating:

> Nonetheless, even if the fill rate were proven to be consistent over time, this embedded fill used as the fill factor would truly be backward looking. The size of SBCI's current embedded network masks any efficient designs and renders the embedded fills a poor indicator for a forward-looking efficient network. The fill factor would be based on the embedded network

> that evolved from past practices, old technologies, past forecasts and past demands, hence backward-looking when we should be basing the fill factor on a forward-looking efficient network. (Staff Ex. 10.0, pp. 10-11)

Joint CLECs cited additional reasons why SBC's current actual fill factors (even if they have been fairly constant over an extended period of time) are not representative of the utilization that would be expected in an efficient, forward-looking network. They cited Staff witness Mr. Green's testimony as identifying some of these factors:

> [T]echnologies change, forecasts are only best estimates that may not be borne out by actual events, and the accuracy of present worth analyses are affected by interest rates that fluctuate over time. With all three of these inputs changing with time, an embedded network that may have been efficient when designed may no longer be an efficient network today and no longer forward-looking. Therefore, SBCI's current embedded network of various design factors would invariably have different fill rates from an efficient, forward-looking network totally designed today. (Staff Ex. 10.0, pp. 11-12)

> [SBC] has been provisioning cables for decades and many of these older cables are still in use today. There are cables that were previously used to serve factories, businesses, and residential areas that are much smaller or no longer exist and, as a result, produce much less demand upon the network than before. The current embedded fill on these cables is, therefore, disproportionately low. On the other hand, there are also areas where the fill would be disproportionately high, such as in urban renewal areas that could not have been part of the original forecast. Either of these outcomes, of course, would be inconsistent with an efficient, forward-looking network. (*Id*., p. 12)

Joint CLECs emphasized that Mr. Green's opinions on these topics were important because Mr. Green was employed by Illinois Bell from 1970 to 1984, in network engineering positions for much of that time. Thus, Mr. Green actually has as much or more personal experience with the historic engineering practices that have shaped SBC Illinois' legacy network than the witnesses appearing on behalf of SBC in this proceeding.

Due to unexpected events, including, but not limited to, changes in technology that impact network sizing guidelines, other technology advances, growth in demand or changes in the nature of the customers in a particular geographic area, Joint CLECs argued that a network capacity that was deemed efficient and forward-looking at the time of deployment, may no longer be deemed efficient or forward-looking based on current circumstances.

Joint CLECs pointed out that Staff economist Dr. Genio Staranczak explained that SBC's low fill factors are likely an inefficient vestige of SBC's days as a monopoly provider of service under rate of return regulation. Dr. Staranczak explained that under

rate of return regulation, SBC was regulated based on the size of its rate base; consequently, SBC could earn a rate of return on spare capacity. He stated that as a result, under rate of return regulation, there was not as strong an incentive to be as frugal with spare capacity as there is in unregulated industries. Dr. Staranczak explained that although SBC is now under price-cap regulation, the high levels of spare capacity placed during the era of rate of return regulation remain embedded in SBC's network. (Only about one-third of SBC's existing network has been installed since SBC moved to price cap regulation. (Tr. 304)) The fact that much of SBC's existing network was installed under rate of return regulation has negative implications for the efficiency of its network. Dr. Staranczak testified that:

> Much of the plant SBCI has currently in place was put in place when it was a rate of return regulated monopolist. This plant therefore reflects practices typical of a rate of return regulated monopolist and does not reflect what an efficient forward looking firm would do. I should also note that it takes time to change old habits. So if rate of return engineering guidelines suggested a certain amount of spare capacity then these guidelines may not immediately be changed under price cap regulation. Planners who were comfortable under the old spare capacity guidelines would lobby to retain these guidelines. So even under price caps, SBCI would not necessarily be making the most efficient investment decisions. (Staff Ex. 2.0, pp. 19-20)

> ~~CLECs argue that~~ SBCI's embedded fills do not reflect fills for an efficient forward-looking firm. SBCI's embedded fills in part reflect fills for a rate of return regulated monopoly. . . . Furthermore, former monopolies are not known for their efficiency. . ..Use of embedded fills reflects historical behavior and not what is possible from a forward-looking efficient carrier. (*Id*., pp. 20-21)[12]

Joint CLECs pointed out that SBC presented no evidence of changes in design or engineering practices when it moved from rate of return regulation to price-cap regulation. To the contrary, SBC indicated that many of its engineering and design standards have been in place for many years.

Joint CLECs identified other evidence that SBC's current actual fill factors are not representative of an efficient forward-looking network, should not be adopted for purposes of calculating SBC's UNE prices, and may even be subject to question as to their accuracy. Joint CLECs noted that SBC's long-standing design practice of installing 2.25 pairs (lines) per household for much of its network, which is a principal driver of its actual distribution fill factors that are below 50%, appears excessive in light of potential demographic changes in the demand for telephone service. The record shows that households today are using cellular phones, DSL and cable modems in lieu of second

[12]This paragraph is actually a quotation from Staff economist Dr. Staranczak's testimony but is not presented as such in the Proposed Order.

wirelines. SBC itself has identified customer use of such alternatives as factors that may reduce demand on its network facilities. Joint CLECs stated that while it would be a gross exaggeration to suggest that these alternatives will strand or render obsolete substantial portions of SBC's embedded network, it is reasonable to conclude that an efficient competitor designing a forward-looking network would take the reduced demand for wireline services per household into account in determining the amount of spare capacity to design into the network. They stated that as a result, SBC's historic practice of installing two lines per living unit is becoming outdated.

Joint CLECs also pointed out that SBC's fill factor approach essentially assumes that its network will have substantial excess capacity forever. They stated that it might be reasonable to design a new network to have 50% excess capacity at the outset, but that excess capacity will be used up as growth in demand manifests. Yet by proposing to use its current actual fill factors for TELRIC purposes, SBC effectively assumes that the efficient forward-looking network would have the same level of excess capacity indefinitely. Joint CLECs stated that this is inconsistent with the FCC's requirement that TELRIC calculations be based on "a reasonable projection of the actual total usage of the element" and "reasonably foreseeable capacity requirements." (Local Competition Order, 682, 685) They noted that, as Staff witness Mr. Hoagg pointed out, the FCC's TELRIC methodology requires reasonable projections of demand for an element, which is not the same as the current demand for the element.

Joint CLECs also contended that SBC's current actual fill factors were not representative of an efficient, forward-looking network because as calculated, SBC current actual fill factors (at least for copper facilities and DLC chassis) include "defective pairs" in the denominator as available capacity. Joint CLECs stated that on a statewide basis, the percentage of defective pairs in SBC's copper feeder and copper distribution "usable pairs" is excessive and has been increasing, and exceeds the percentage of defective pairs that would be found in an efficient, forward-looking design. Joint CLECs stated that while in theory defective pairs can be repaired and thus converted into available capacity, SBC Illinois' actual percentages of defective pairs are too high to be seriously considered forward-looking. They stated that the high percentage of defective pairs in SBC's actual fill factors unreasonably increases the denominator of the fill factor calculation and lowers the actual fill factors.

Joint CLECs further noted that SBC's own internal guidelines establish that SBC will not always seek to reclaim defective pairs and thereby convert them back into usable capacity. SBC classifies some defective pairs as uneconomical to recover and hence unusable. For example, SBC typically will not attempt to recover single defective pairs in underground and buried cable, defective pairs in a cable section between manholes, defective pairs in a section where adequate other spare capacity exists, or defective pairs in areas where repair of the defective pairs would be insufficient to serve anticipated growth in demand.

Another point raised by Joint CLECs was that whereas all indications are that an efficient, forward-looking network using the most efficient network configuration and technology available would have less, rather than more, spare capacity than the existing

legacy network, SBC's actual fill factors have in fact been decreasing over the past several years. In fact, from December 2000 to December 2001, SBC's working copper distribution pairs fell while its available capacity increased substantially, thereby dropping the fill factor by a noticeable amount. Joint CLECs stated that this drop in SBC Illinois' fill factors during 2001 is especially suspect because SBC chose to use January 2002 data for the current actual fill factor values that it proposes be adopted in this case.

Joint CLECs stated that SBC Illinois is asking the Commission to adopt fill factors that for many components, including the copper distribution portion of the network, are at or below 50%. They pointed out that the Commission recently commented adversely on the implications of fill factors below 50%, in its comments to the FCC on the TELRIC NPRM:

> Most ILEC facilities were placed when the telecommunications industry was a regulated monopoly, and placement of an efficient network was not necessarily a primary objective. Presuming that an ILEC's network is efficient will probably tend to increase UNE rates. For example, high fill factors would exist in an efficient network, while a fill factor of less that 50% would indicate that the network was not designed for efficiency.[13]

Joint CLECs concluded that SBC Illinois' current actual fill factors have not been demonstrated to be the fill factors that would be expected in an efficient, forward-looking network using the most efficient telecommunications technology available, and have not been shown to match the utilization rates that would be expected in an efficient, forward-looking network. Joint CLECs urged that SBC's proposal to use its current actual fill factors in its TELRIC studies to calculate its UNE rates be rejected.

In their Reply Brief, Joint CLECs responded to various arguments made by SBC in attempting to show that its existing network and its current fill factors represent the efficient, forward-looking network required for TELRIC purposes. Joint CLECs responded to SBC's statement that its "engineers use rigorous planning methods to ensure that facilities are installed in a timely and economical manner." Joint CLECs stated that even if this is true about SBC's methods today, it does nothing to establish that SBC's existing embedded network, which is the product of all the design, installation and equipment selection standards and decisions over the past 30 or more years, represents the efficient, forward-looking network using the most efficient telecommunications technology currently available and the most efficient network configuration given the locations of existing wire centers and customers, that an efficient provider would design today. They stated that, in fact, the record shows the opposite is true.

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[13]Initial Comments of the ICC, *In the Matter of Review of the Commission's Rules Regarding the Pricing of Unbundled Network Elements and the Resale of Service by Incumbent Local Exchange Carriers*, WC Docket No. 03-173 (Dec. 16, 2003), pp. 33-34 ("ICC TELRIC NPRM Comments")

Joint CLECs also stated that SBC's assertion that it is always more efficient and economical to install all the capacity needed to serve projected long-term or "ultimate" demand at the outset, rather than installing additional capacity at a later date as demand grows (SBC Initial Br., p. 40), cannot and should not be categorically accepted in all situations. They noted that by installing the capacity required to serve projected "ultimate" demand at the outset, SBC forces customers (both retail and wholesale) to pay for excess capacity until it is actually needed to serve demand. They stated that whether this approach is economic from the point of view of those customers depends on a number of variables, including the projected date or dates at which additional demand is projected to manifest itself and additional capacity would otherwise be needed (if not installed today), the incremental cost of installing the additional capacity needed to meet future demand at a future date versus today, and the discount rate (which would be used to determine the present value to today's customers of expenditures made at a future date to install additional capacity). Installing today the additional capacity projected to be needed to meet ultimate future demand is efficient and economical only if the present value of the carrying costs on that investment over time will be less than the discounted present value of the incremental cost of installing that capacity some years in the future when it is actually warranted by demand growth. Joint CLECs pointed out that SBC has provided no indication in its evidence that it performs this type of economic calculation in deciding whether and how much spare capacity to install at the outset. They stated that to the extent that SBC does not perform this analysis, it may be installing inefficient and uneconomical amounts of spare capacity.

Joint CLECs stated that since SBC's assertion that its fill factors have been consistent over time is at best unsubstantiated and at worst wrong, SBC's subsequent conclusion that is premised on that assertion ("Since SBC Illinois' fills have remained relatively stable, they do represent an efficient, forward-looking estimate of network utilization" (SBC Initial Br., p. 41)) is also baseless. Joint CLECs also re-emphasized that in any event, whether or not SBC's actual fill factors have been consistent over time does not show that they should be used for TELRIC purposes (Joint CLEC Reply Br., pp. 30-31), ~~because,~~ as Staff witness Mr. Green had testified~~:~~ (as quoted earlier in this Order).

Joint CLECs also took issue with SBC's assertion that its actual fill factors are consistent with those of other network providers and with those used by other states in TELRIC studies. Joint CLECs noted that SBC relied on a chart purportedly showing copper distribution fill factors approved by commissions in 18 other states. Joint CLECs noted that information from any of the other Ameritech-SBC Midwest states was missing from this chart. They pointed out, however, that the underlying data (a chart sponsored by SBC witness Mr. Palmer) showed the distribution fill factors approved for the SBC companies in Wisconsin, Michigan and Ohio to be 70%, 75% and 85%, respectively. They noted that since the SBC companies in these other states operated as part of the Ameritech corporate family from 1984-1999 before the SBC merger, much of their networks have been built over the last 20 years using the same engineering standards and methods as has the SBC Illinois (Ameritech Illinois/Illinois Bell) network. Further, Joint CLECs mentioned that the other SBC Midwest states have comparable population

density and terrain to Illinois, which should lead to comparable network costs. Joint CLECs also pointed out that the underlying chart showed 18 other states with ordered fill factors higher than the values listed on SBC's chart.

Joint CLECs also stated that the accuracy of the data on Mr. Palmer's chart was suspect. They noted that the data for at least 7 of the states, and maybe more, did not come from (and could not be ascertained from) state commission orders, but rather was compiled by calling up unidentified persons at the applicable ILECs. Additionally, some of the data was taken not from state commission orders but from FCC orders in Section 271 cases that found the RBOC's rates were generally consistent with what application of TELRIC principles would produce. Joint CLECs pointed out that in a Section 271 case (due to the 90-day time limit) the FCC does not conduct a de novo review of the RBOC's rates. Instead, the FCC often "benchmarks" the subject RBOC's UNE rates against those of other RBOCs who have received Section 271 approval, without looking into the individual components. Further, some RBOCs have satisfied this Section 271 criterion by simply agreeing to an arbitrary reduction in their UNE rates to bring them within the acceptable benchmark range.

Joint CLECs also responded in their Reply Brief to SBC's attempt to defend the high level of defective pairs in its network. SBC stated that defective pairs are recovered only when economically appropriate. (SBC Initial Br., p. 43) Joint CLECs responded that SBC was missing the point of the Joint CLECs' concerns over the level of defective pairs in SBC's network, for several reasons. First, they argued that even if defective pairs are recovered when "economically appropriate", the fact remains that the percentages of defective pairs in SBC's feeder and distribution networks are much higher than one would expect (or tolerate) in a newly-installed, efficient network. Second, they argued that the fact that defective pairs in SBC Illinois' network have been increasing in recent years, both in absolute terms and as a percentage of available and usable pairs, would seem to be the opposite of the trend one would expect in an efficient, forward-looking network. Third, while Joint CLECs did not dispute that defective pairs should only be recovered when economically appropriate, they stated that this means that there are defective pairs in SBC Illinois' network that will never be recovered. Instead, SBC will choose simply to install new facilities instead of repairing the defective pairs. Joint CLECs stated that this means that SBC's fill factor numbers are inflated by defective pairs that are counted as available capacity because they could in theory be used to serve future demand, but in fact never will be, because SBC will determine that it is not "economically appropriate" to repair these defective pairs, but rather will install new capacity. Joint CLECs emphasized that there are a substantial number of situations in which SBC does not attempt to recover defective pairs. Among other things, it appears that there needs to be a minimum number of defective pairs in a feeder or distribution section before SBC will attempt to recover the defective pairs. (See AT&T/Joint CLEC Ex. 1.2, pp. 119-123; TDS Cross Exs. 23P and 24P; Tr. 600-614) Joint CLECs noted that there is also no indication that, having made the decision to install new facilities rather than to attempt to repair defective pairs, SBC removes the bypassed defective pairs from "available capacity." Thus, defective pairs that customers have been paying for on the theory that they represented spare capacity but

which have been bypassed when it became necessary to use the spare capacity, continue to be carried as spare capacity.

Joint CLECs concluded in their Reply Brief that the facts relating to SBC's treatment of defective pairs further show that SBC does not maintain an efficient amount of spare capacity and that its current actual fill factors do not represent the utilization to be expected in an efficient, forward-looking network, and that under SBC's fill factor proposals, customers would pay for an excessive amount of spare capacity.

Dr. Liu's Proposed Fill Factor Values

Joint CLECs opposed Staff witness Dr. Liu's proposal that the Commission use a set of fill factor values that she referred to as "forward-looking actual fill" factors in calculating SBC Illinois' UNE rates in this proceeding. They noted that she testified that she was unaware of any other state commissions that had used her concept of "forward-looking actual fill." (Tr. 987)

Joint CLECs recounted that although Dr. Liu submitted direct testimony on behalf of Staff in May 2003 as part of Staff's direct case, her testimony did not address fill factors. They noted that in Staff's May 2003 direct case, Staff witness Mr. Green presented Staff's position that the Commission should continue to use the target fill factor values that it adopted in the TELRIC I Order. (Tr. 978-980) Dr. Liu did not provide any testimony on fill factors until Staff's rebuttal testimony, submitted January 20, 2004, at which time she introduced for the first time her forward-looking actual fill concept, which she described as a "new fill concept." However, she did not at that time present any actual proposed values of "forward-looking actual fill" for the Commission's consideration in this case. Instead, she represented to the Commission that she was still gathering information that she needed to calculate values for forward-looking actual fill, and would present her actual proposed values in Staff's surrebuttal testimony to be submitted on February 20, 2004. Joint CLECs noted that in cross-examination, Dr. Liu testified that when she stated in her January 20, 2004 rebuttal testimony that she was still in the process of collecting information needed to calculate specific values for "forward-looking actual fill" and would present her actual value in her surrebuttal testimony due February 20, she did not in fact expect to be able to collect the information she needed to calculate "forward-looking actual fill" factors. (Tr. 990-991)

Joint CLECs noted that Dr. Liu in fact did present proposed fill factor values in her surrebuttal testimony submitted on February 20, although in that testimony she stated that she had been unable to obtain the information needed to calculate "forward-looking actual fill" factors in the manner she considered theoretically appropriate, and thus could offer only a "proxy" of what "forward-looking actual fill" factors should be. They pointed out that as a result of the above-described sequence of events, the other parties were given only one opportunity, namely, their surrebuttal testimonies due on March 5, 2004, to respond to the fill factor values proposed by Dr. Liu. (Joint CLEC Initial Br., pp. 81-83) Joint CLECs stated that the sequence of events by which Dr. Liu's fill factor concept and proposed fill factor values were introduced in this case provided sufficient basis for the Commission to completely disregard her testimony and proposal.

(Id., p. 83) They also pointed out that in her January 20, 2004 rebuttal testimony, in which Dr. Liu testified that she was still in the process of collecting information necessary to calculate "forward-looking actual fill" factors and would present her actual proposed values in her February 20 surrebuttal testimony~~.~~ , she also stated:

> In the event that I am not able to collect sufficient information for me to develop the particular values that the "forward-looking actual fill" would take, then I would recommend that the Commission continue to use the target fill as adopted in the TELRIC [I] Proceeding. (Staff Ex. 17.0, p. 38)

Joint CLECs recommended that since, by her own admission, Dr. Liu already knew at the time she made the above-quoted statement that she would not be able to obtain the information needed to calculate "forward-looking actual fill" values, the Commission should hold Dr. Liu to her word and treat her recommendation as being to continue to use the target fill factors adopted in the TELRIC I Order. They stated that this would make Dr. Liu's recommendation consistent with Staff's recommendations in its direct case as presented by Staff witnesses Messrs. Hoagg and Green and Dr. Staranczak.

Joint CLECs stated that the essence of Dr. Liu's concept of "forward-looking actual fill" appeared to be the present value of the sum of all future demand on the network divided by the present value of all future network capacity. They stated that it therefore was not surprising that Dr. Liu came to the conclusion that the information needed for the calculation of this fill factor value is unavailable. They noted that she testified on cross-examination that she did not think the necessary information to make the calculation would ever be available. (Tr. 999-1000) Joint CLECs stated that the lack of the information Dr. Liu needed to make her proposed calculations was a direct result of her own unworkable construct. (Joint CLEC Initial Br., pp. 83-84)

Joint CLECs stated that Dr. Liu's "proxy" calculation of her "forward-looking actual fill" factors, which she presented for the first time in her February 20 surrebuttal, bore no resemblance to the theoretical construct of "forward-looking actual fill" that she presented in her rebuttal and surrebuttal testimonies. They pointed out that her calculation of her proxy values did not use the mathematical models for "forward-looking actual fill" calculations that she developed in her testimony. (Tr. 998-999) They explained that the purported basis of Dr. Liu's proxy calculation was to adjust SBC's current actual network capacity to remove the effects of so-called ex post inefficiencies that exist in SBC's current actual network, which would not be found in the efficient forward-looking network; she then used these adjusted capacity values to calculate fill factors. Joint CLECs stated that the actual numerical adjustments that Dr. Liu made to SBC's current actual network capacity in calculating her "proxy" values were totally lacking in either explanation or empirical basis. They pointed out that after providing dozens of pages of highly-theoretical testimony on "forward-looking actual fill" and the basis for her "proxy" values, the following testimony was the entirety of Dr. Liu's explanation and support for the fill factor values she actually proposed:

> Q. What are the adjustments that you make to the total network capacity for different loop components?

A. I make 15% adjustments to the total capacity of SBC distribution plant, and 7.5% capacity adjustments to SBC's feeder plant and DLC capacity. I make no adjustment to SBC network capacity for circuit equipment.

Note that a 15% adjustment to SBC's actual distribution plant capacity implicitly assumes that 15% of distribution plant capacity has been built due to "innocent mistakes" such as incomplete information or imperfect forecasts of the future events, and it is thus not part of a forward-looking network. Similarly, a 7.5% adjustment to feeder plant capacity assumes that 7.5% of the total feeder plant capacity has been built due to "innocent mistakes," and it is not part of a forward-looking network. These adjustments would at least be sufficient to account for *ex post* inefficient network plant that has been cumulatively built due to incomplete information or imperfect forecasts. (Staff Ex. 25.0, pp. 28-29)

Joint CLECs also pointed out that Dr. Liu confirmed that she had no supporting materials, data or analysis for her proposed 15% and 7.5% adjustments other than what she provided in her February 20 testimony (quoted above).

Joint CLECs summarized that Dr. Liu's proposed "forward-looking actual fill" concept is a theoretical construct that by her own admission is incapable of ever being implemented to produce numeric fill factor values in a manner consistent with the underlying theory. They stated that her actual proposed fill factor values for this case are totally lacking in any basis, and are nothing more than an arbitrary, and rather minimal, adjustment to SBC's proposed current actual fill factors. Joint CLECs urged the Commission to reject Dr. Liu's "forward-looking actual fill" factor proposal and her "proxy" calculation, and to treat Staff's position in this case as being that the target fill factors adopted in the TELRIC I Order should continue to be used.

In their Reply Brief, Joint CLECs noted that SBC had argued that Dr. Liu's adjustments to SBC's actual network capacity for purposes of arriving at her proxy fill factor values were too high, and that SBC witness William Palmer had proposed certain revisions to Dr. Liu's adjustments. Joint CLECs pointed out, however, that since Dr. Liu's adjustments were completely arbitrary and lacking in any empirical basis whatsoever, any attempt to adjust her adjustments (such as SBC witness W. Palmer attempted) is a similarly arbitrary act. Joint CLECs stated that the Commission must reject any SBC proposed fill factor values that involve further adjustments to Dr. Liu's original adjustments, just as the Commission should reject Dr. Liu's proposed fill factors themselves in their entirety as arbitrary and unsupported.

Joint CLECs' Third Option

Joint CLECs stated that although Dr. Liu's proposed fill factor values are simply arbitrary adjustments to SBC Illinois' current actual fill factors, and have no empirical basis, the theoretical concept behind her "proxy" calculation, i.e., to adjust SBC Illinois' actual network capacity to remove the impacts of efficiency and to reflect the most efficient practices, could have merit if implemented more appropriately. They stated that Dr. Liu did not conduct a sufficiently detailed analysis and failed to provide empirical support in applying her own theory. However, Joint CLEC witnesses Starkey and Fischer presented a more accurate implementation of Dr. Liu's approach for the Commission's consideration. The resulting fill factor values are set forth on Attachment MS/WF-23 to AT&T/Joint CLEC Exhibit 1.3, and are summarized for the major network components in the table at page 50 of Joint CLECs' Initial Brief (PROPRIETARY version). Joint CLECs stated that these fill factor values are a third best option for the Commission in this case, behind (1) usable capacity fill factors and (2) the target fill factors adopted in the TELRIC I Order.

In describing the basis for their more accurate implementation of Dr. Liu's approach, Messrs. Starkey and Fischer explained that economists measure the inefficiency of a particular entity by comparing it with the best observed practices. They stated that the best observed practices represent a "frontier" against which the relative efficiency of entities can be measured. In a competitive industry, the mechanism of the competitive market drives the participants towards efficiency. In a monopoly market, however, this is not necessarily the case, and there are no competitors to provide a benchmark of efficiency against which to judge the company under consideration. They stated that the frontier approach can still be applied, however, by attempting to identify the most efficient operations of the monopoly and comparing the rest of its operations to those most efficient operations.

To effectuate their more accurate implementation of Dr. Liu's approach, Messrs. Starkey and Fischer applied the frontier approach to SBC's capacity utilization at the wire center level. They noted that some SBC wire centers tend to have high fill factors over time and others tend to have low fill factors over time. These observations suggested that some wire centers are more efficient relative to other wire centers. They noted that, in addition, there is a wide variance among SBC wire centers in terms of numbers of defective pairs. Moreover, a high percentage of defective pairs is not consistent with a new, efficient, forward-looking network. They testified that since in a number of wire centers defective pairs constitute 1% or less of usable capacity, this percentage appeared to represent the best-observed practice. Messrs. Starkey and Fischer therefore set the defective pair percentage at 1% in all wire centers in which the actual percentage is greater than 1%. Using these adjusted counts of defective pairs, they then recalculated the usable capacity (which includes defective pairs) in each wire center.

With respect to the wire center-by-wire center fill factors, Messrs. Starkey and Fischer selected from SBC's January 2002 fill data base the 20 wire centers (constituting about 7% of the wire centers in SBC's fill data base) for each network component that had the best fill factors. These wire centers were selected after the adjustment had been made to wire center available capacity for defective pairs

described in the preceding paragraph. The best 20 wire centers were selected independently for each network component. After selecting these wire centers, Messrs. Starkey and Fischer reviewed subsequent data to determine if significant increases in capacity had occurred after the date on which SBC's fill data base was based. If a subsequent capacity increase in one of the selected wire centers was observed, that wire center was replaced with the wire center with the next highest fill. Messrs. Starkey and Fischer also checked that the selected wire centers varied considerably in size (pair counts), so that the selected wire centers did not consist solely of either small/rural or large/urban central offices. For each network component they calculated a weighted average of the fill factors in the 20 wire centers.

Messrs. Starkey and Fischer made one other adjustment to the resulting fill factors. Specifically, in light of the fact that SBC's fill factors have been falling over time, they compared SBC fill factor data for the year 1998 to the fill factor data for January 2002 (the data set that SBC proposes to use in this case and from which Messrs. Starkey and Fischer constructed the adjusted fill factors shown above). They selected 1998 for two reasons: (1) it was the year before SBC initiated its "Project Pronto" broadband initiative, and (2) it was a "middle" year (*i.e.*, neither best nor worst) in the business cycle. The comparison of SBC's distribution fill factors in 1998 to those in January 2002 showed that the 1998 fill factors were slightly higher than the January 2002 fill factors. Messrs. Starkey and Fischer revised their adjusted fill factors for each of the three SBC zones by the ratio of the 1998 fill factor to the January 2002 fill factor. This adjustment removed the effects of the business cycle on the January 2002 data. This adjustment was made only for distribution fill factors since the data needed to make the 1998-January 2002 comparison was not available for other network components.[14]

The final, adjusted actual fill factors for the major network components determined by Messrs. Starkey and Fischer using the procedure described above are shown in AT&T/Joint CLEC Exhibit 1.3, page 26 and on page 89 of Joint CLECs' Initial Brief (PROPRIETARY version). They testified that these fill factors represent SBC Illinois' actual fill factors, adjusted to remove the following types of inefficiencies: (i) relative inefficiency of SBC's wire centers as measured against its "best" wire centers; (ii) unreasonable proportions of defective pairs in individual wire centers; and (iii) short-term decreases in capacity utilization associated with the business cycle or other short-term events.

Messrs. Starkey and Fischer explained that while the adjusted fill factors that they calculated removed the effects of some inefficiencies from SBC's actual fill factors, the adjusted fill factors did not fully represent the fill factors to be expected in an

[14]Joint CLECs note that since Messrs. Starkey and Fischer's comparison of SBC's 1998 and 2002 fill factor data appears to be the basis for one of the adjustments adopted by the Proposed Order to Staff witness Liu's proposed fill factors, it is particularly puzzling why the Proposed Order excised this paragraph from the summary of the Joint CLECs' position.

efficient, forward-looking network, because the data did not permit removal of other types of inefficiency in SBC's actual network. For this reason, Joint CLECs contended that these adjusted actual fill factors rank as a third option behind usable capacity fill factors and the target fill factors adopted in the TELRIC I Order. However, should the Commission decide to base the fill factor values used in this case on SBC Illinois' actual network capacity utilization data, they argued that the adjusted fill factors calculated by Messrs. Starkey and Fischer provide a superior, more logically-grounded and empirically based set of values than the fill factor values proposed by Dr. Liu.

In their Reply Brief, Joint CLECs responded to SBC's criticisms of Messrs. Starkey and Fischer's more accurate implementation of Dr. Liu's adjusted actual capacity approach. Joint CLECs noted that SBC made four criticisms, but that those criticisms neither individually nor collectively cast doubt on the usefulness of Messrs. Starkey and Fischer's analysis.

SBC's first criticism was that the Starkey/Fischer adjustment for efficiency was based on only 20 wire centers and that these wire centers are unduly skewed towards tiny, rural offices. (SBC Initial Br., pp. 52-53) Joint CLECs responded that the transcript pages that SBC cited did not support SBC's assertion, and in fact showed that Mr. Starkey repeatedly disagreed with SBC counsel's assertions to that effect. They noted that Mr. Starkey testified affirmatively that the selected offices were fairly well distributed among larger and smaller offices, and that the analysis contained fairly large, medium size and fairly small offices. They pointed out that the wire centers used in the analysis included Wilmette, Grayslake, Chicago Kildare, Cary, Hickory Hills, Oak Lawn, Fox Lake, Wauconda, Chicago Beverly, Chicago Edgewater, Algonquin, Collinsville, Plainfield, Frankfort, Romeoville, Chicago Stewart and New Lenox, as well as offices in Schaumburg and Northbrook. (SBC Cross Ex. 48P) Joint CLECs noted that Mr. Starkey explicitly testified that the 20 wire centers selected for each of the network components produced a reasonable distribution of communities and geographic areas served in terms of demographics.

SBC's second criticism was to suggest that Messrs. Starkey and Fischer should have somehow "controlled" for the fact that some of the wire centers selected are (according to SBC) in "mature" communities with no capacity for growth. (SBC Initial Br., p. 53) However, Mr. Starkey expressly disagreed with SBC's hypothetical assumption that a "mature" community would have no potential for growth in demand, because the fact that a community has a stable population does not necessarily mean that it cannot experience increased demand for telecommunications services. He disagreed with SBC counsel's hypothetical that any community could have no potential for growth in demand for telecommunications services. As part of this second criticism, SBC also noted that the 20 wire centers selected by Messrs. Starkey and Fischer did not include any Zone A (*i.e.*, downtown Chicago) wire centers. However, as Mr. Starkey pointed out, certain of the network components (such as DLC chassis) typically are not used in downtown Chicago wire centers. (Tr. 1792-1793) Joint CLECs stated that not including downtown Chicago wire centers is not inconsistent with the focus of this case which is primarily on the TELRIC rates for UNE loops used to serve mass market customers (*e.g.*, 2-wire analog loops). They also noted that the wire centers that

Messrs. Starkey and Fischer used include several large wire centers within Chicago even if not in Zone A.

Joint CLECs also stated that SBC's first two criticisms missed the point of Messrs. Starkey and Fischer's analysis. They stated that the purpose of the analysis was not to take a statistically valid random sample of all of SBC's wire centers – the resulting fill factors would have simply devolved to SBC's existing fill factors. Rather, they argued that the point of the analysis was to identify the wire centers in which SBC has achieved the most efficient utilization of its capacity, as a benchmark against which the overall efficiency of all SBC wire centers could be judged. Moreover, as Mr. Starkey explained, regardless of whether a wire center is "mature" or not, or large or small, the point of a TELRIC study is to build a network efficiently sized to meet the reasonably foreseeable demand. (Tr. 1849-50) Joint CLECs stated that the point of the Starkey/Fischer analysis is to show that in some wire centers SBC has been able to do that more effectively than in others, and that the more efficient wire centers should provide a benchmark for the efficiency of the entire forward-looking network.

SBC's third criticism was that Starkey/Fischer failed to take into account the fact that in some areas SBC may have installed copper and fiber facilities side by side with one set of facilities having a higher fill factor and the other set having a lower fill factor. (SBC Initial Br., pp. 53-54) Joint CLECs noted that the point raised by SBC in fact tended to substantiate some of the reasons cited by Messrs. Starkey and Fischer as to why SBC's current actual fill factors do not represent an efficient, forward-looking network, namely, that SBC's current fill factors are depressed due to SBC's installation of fiber overlays to the copper distribution network, in anticipation of future demand for advanced services. Joint CLECs also noted that SBC's point illustrated the distortion created by SBC's inclusion of defective pairs in "available capacity", because SBC may have decided to install new fiber facilities to serve demand growth rather than repair the defective pairs in the existing copper facilities. Joint CLECs stated that more generally, SBC's third criticism illustrates why SBC's current actual fill factors are not representative of a newly-designed, efficient, forward-looking network: low fill factors for one network component may be the consequence of high fill factors for another component. They stated that while the installation of new fiber facilities next to existing copper facilities may be a result of the historical evolution of technology and the SBC network, SBC has not suggested that anyone would design a new, efficient network based on existing wire centers and existing customer locations using such duplicative and overlapping facilities of different types.

SBC's fourth criticism was that Messrs. Starkey and Fischer adjusted the defective pair percentages for copper distribution in all SBC central offices to 1% of usable capacity, without attempting to determine if 1% defective pairs was a sustainable percentage for the entire network. SBC implied that this is not a sustainable percentage because it is not economically justified for SBC to repair defective pairs unless necessary to meet an immediate capacity need. (SBC Initial Br., p. 54) Joint CLECs responded that this SBC criticism is irrelevant to determining the defective pair percentage likely to be observed in a newly-designed and newly-installed efficient network. They stated that in such a network, the only defective pairs to be expected

would be those that resulted from manufacturers' defects in the newly-purchased and installed cables. They pointed out that neither SBC nor this Commission would tolerate defective pair percentages in a newly-installed network anywhere near as high as the actual defective pairs percentages in SBC's existing network. (Joint CLEC Reply Br., p. 44)

e) Staff's Position

Exceptions

As noted in the Exception to "CLECs' Position", above, the two-paragraph section on "Staff's Position" on Fill Factors in the Proposed Order is a woefully inadequate and incomplete summary of the evidence presented by Commission Staff witnesses on this topic, including the Staff testimony that supported the continued use of SBC's target fill factors and (contrary to Dr. Liu's ultimate proposal) unequivocally rejected any use of SBC's actual network capacity or utilization as a basis for setting TELRIC-compliant UNE rates. The Proposed Order should adequately summarize all of the evidence of Commission Staff witnesses.

In the proposed replacement language for "CLECs' Position", above, text has been inserted in a number of places summarizing testimony of Commission Staff witnesses. If these proposed additions are included in the Final Order, then the Order will contain an adequate summary of Staff's evidence on Fill Factors (although in the subsection on "CLECs' Position" rather than in the subsection on "Staff's Position". Alternatively, the Commission can utilize the proposed additional language for "CLECs' Position" that describes the testimony of Staff witnesses on Fill Factors to expand the subsection on "Staff's Position" to an appropriate and complete summary of the evidence presented by Staff witnesses on this topic.

f) Commission Analysis and Conclusion

Exceptions

Overview of Exceptions on Fill Factors

In the TELRIC I Order, the Commission adopted the target fill factor approach for use in setting SBC's UNE loop rates in accordance with the FCC's TELRIC methodology. The target fill factor approach was proposed in that case by SBC, although the Commission used the values for target fill factors proposed by Staff. (See TELRIC I Order, p. 34)

Although continued use of the target fill factors in this case was recommended by both Commission Staff and CLEC witnesses, the Proposed Order would have the Commission depart drastically from the fill factor methodology it adopted in the TELRIC I Order. The Proposed Order would have the Commission adopt (with two minor adjustments, described below) Dr. Liu's recommendation to use adjusted actual capacity fill factors for SBC. What Dr. Liu did was take SBC's current actual fill factors – that is, the exact fill factor values recommended by SBC – and make totally arbitrary and empirically-unsupported adjustments to reduce SBC's actual capacity by 7.5% in the case of feeder and DLC components and 15% in the case of distribution components, before calculating her recommended fill factor values. The Proposed Order makes this recommendation despite the testimony of other Staff witnesses (Staff members much more qualified than Dr. Liu to address this topic, and whose testimony the Proposed Order largely fails even to acknowledge[15]) that reliance on SBC's current actual network capacity and actual network utilization (fill factors) would not be representative of the efficient, forward-looking network required by the FCC's TELRIC requirements.

[15]As noted earlier, the other three Staff witnesses on fill factors were H.R. Green, Dr. Genio Staranczak and Jeffrey Hoagg.

Moreover, the Proposed Order makes this recommendation to the Commission even though the adjusted actual fill factors that Dr. Liu presented in her surrebuttal testimony were **not** the approach Dr. Liu proposed in earlier testimony. Dr. Liu proposed an entirely different approach that she referred to as "forward-looking actual fills", but she was unable to implement this approach due to lack of information. In presenting the "forward-looking actual fill" approach in her rebuttal testimony, Dr. Liu stated that she was still gathering information needed to calculate values for "forward-looking actual fill", that she intended to present those calculations in her surrebuttal testimony, but that if she were **unable** to obtain the information needed to calculate "forward-looking actual fill" factor values (which proved to be the case), then the Commission should continue to use the target fill factors it had adopted in the TELRIC I Order.[16] Specifically, she testified:

> In the event that I am not able to collect sufficient information for me to develop the particular values that the "forward-looking actual fill" would take, then I would recommend that the Commission continue to use the target fill as adopted in the TELRIC [I] Proceeding. (Staff Ex. 17.0, p. 38)

The Proposed Order ignores this testimony[17], and fails to hold Dr. Liu to her word. The Commission should not exercise the same degree of leniency.

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[16]Distressingly, the record shows that at the time she submitted rebuttal testimony stating that she was still gathering information needed to calculate specific values for her proposed "forward-looking actual fill factors" and that she would submit her actual calculated values in her surrebuttal testimony, Dr. Liu already knew that she would be unable to gather the information needed to calculate numeric values for "forward-looking actual fill factors." (Tr. 990-91; see Joint CLEC Initial Br., p. 82)

[17]As indicated in Joint CLECs' Exceptions to the Proposed Order's section summarizing "CLECs' Position," above, this quote from Dr. Liu's testimony was included in the summary of position on Fill Factors that Joint CLECs provided to the ALJs for inclusion in the Proposed Order, but it was edited out by the ALJs in the preparation of the Proposed Order.

There are three proposals in the record that are superior to Dr. Liu's arbitrary approach, and a fourth that is at least as good. These approaches, which are discussed in greater detail below, are the following:

1) Usable capacity fill factors: Utilization of the physical capacity of the network less capacity required for maintenance, testing and administrative purposes. These are the same fill factors used by SBC in LRSIC studies as required by the Commission's Cost of Service rule (Code Part 791).

2) Target fill factors: The level of network utilization at which it would be more cost-efficient for the ILEC to supplement the network (add new capacity) than to increase the utilization of existing facilities. These are the fill factors that the Commission adopted in the TELRIC I Order and that are embodied in SBC's currently-effective UNE loop rates.

3) Joint CLECs' more accurate implementation of Dr. Liu's approach: Assuming the Commission decides (contrary to the overwhelming weight of the evidence) to use SBC's actual network capacity as a starting point, this approach presents a more theoretically sound and empirically-based set of adjustments to SBC's actual network capacity and fill factors than do Dr. Liu's totally arbitrary and empirically unfounded numerical adjustments.

4) Joint CLECs' recalculation of Dr. Liu's "adjusted actual fill factors" using 15% adjustments to the actual capacity of feeder and DLC components of SBC's network and 30% adjustments to the actual capacity of distribution components of the network. This set of fill factor values, which are set forth at AT&T/Joint CLEC Exhibit 1.3, pp. 11-12, have every bit as much theoretical and empirical support as Dr. Liu's proposed values. Further, these values have the advantage over Dr. Liu's proposed value of not being as drastic a departure from the fill factor values currently embodied in SBC's UNE rates, and of not being as blatantly close to SBC's unsupported proposal in this case.

In the remainder of this section, Joint CLECs (i) discuss the two modest modifications made by the Proposed Order to Dr. Liu's "adjusted actual fill factor" values, and explain why further revisions to those two modifications are necessary and appropriate; (ii) show why the Commission should adopt "usable capacity" fill factors to set SBC's UNE prices in this case; (iii) show that if the Commission does not adopt

"usable capacity" fill factors, the next best option is to continue to use the target fill factors that this Commission adopted in the TELRIC I Order; (iv) describe in detail why the Commission should reject Dr. Liu's "adjusted actual fill factor" proposal; and (v) show that if the Commission determines to use SBC's actual fill factor data as a starting point for the fill factor calculation, it should adopt Joint CLECs' more accurate implementation of Dr. Liu's "adjusted actual fill factor" approach.

(1) The Proposed Order's Adjustments to Dr. Liu's Adjusted Actual Fill Factor Values

The Proposed Order makes two adjustments to Dr. Liu's adjusted actual fill factor values.[18] The Proposed Order's first adjustment is to direct that the starting point for the adjusted actual fill factors for distribution components should be SBC's 1998 fill factor data rather than the 2002 fill factor data presented by SBC. The Proposed Order makes this adjustment, appropriately, because in 1999 SBC began its fiber overlay project which has reduced utilization rates in the short term.[19] (Proposed Order, p. 61) Should the Commission decide (erroneously) to use Dr. Liu's adjusted actual fill factor approach (or any other approach that is based on SBC's actual network capacity and fill

[18]While these two adjustments do increase the adjusted actual fill factor values above those proposed by Dr. Liu, the increase will not be substantial. As to the first adjustment, Joint CLECs believe that use of 1998 data rather than 2002 data will increase the distribution fill factors by only about 2.5 percentage points. (See SBC Ex. 8.0, Schedules RSW-10 and RSW-11 Revised). With respect to the second adjustment, the defective pairs classified by SBC as Universal Bad Pairs appear to represent less than 1% of total installed pairs.

[19]Fill factor data presented by SBC for the period 1998-2001 showed that its fill factors have been declining over the period leading up to January 2002, which was the specific data point SBC chose for its actual fill factors. (See Joint CLEC Initial Br., pp. 79-80; Joint CLEC Reply Br., pp. 32-33, 89)

factors), the use of 1998 fill factor data as the starting point, as recommended by the Proposed Order, rather than 2002 fill factor data, is appropriate.[20]

However, the Proposed Order limits this modification to distribution components because only 1998 distribution fill data is available. Joint CLECs submit that a similar adjustment should be made to feeder and DLC components as well, notwithstanding the lack of specific 1998 data for non-distribution components. The SBC fiber overlay projects have also had a significant impact on these components in terms of driving down fill factors. (See AT&T/Joint CLEC Ex. 1.2, pp. 128-129) Therefore, as a conservative adjustment, the Commission should direct SBC to increase its 2002 fill factors for feeder and DLC components by the same percentage adjustment resulting from the use of 1998 data rather than 2002 data for the distribution components.

The Proposed Order's second adjustment is to direct that Dr. Liu's adjusted actual fill factor calculation be further modified by excluding "universal bad pairs" ("UBP") from the fill factor calculation.[21] (Proposed Order, pp. 61-62) UBPs are installed cables or wires that are defective and cannot economically be repaired and restored to service. Clearly, UBPs should not be counted as "available capacity" in the

[20]Joint CLECs' more accurate implementation of Dr. Liu's adjusted actual fill factor approach adjusts SBC's 2002 data to reflect the change in fill factors from 1998. (See Joint CLEC Reply Br., p. 89)

[21]Citing testimony by both CLEC witness Starkey and SBC witness White, the Proposed Order says that there is a conflict in the evidence as to whether SBC includes UBPs in the numerator as well as the denominator of the fill factor calculation, and directs SBC to remove UBPs from both the numerator and the denominator. (Proposed Order, pp. 61-62) However, Joint CLECs accept Mr. White's testimony that UBPs are not counted in working pairs, but only in available capacity. Therefore, UBPs are only included in, and need only be removed from, the denominator.

fill factor calculation. However, this adjustment by the Proposed Order, while appropriate, does not go far enough, for several reasons.

First, the number of installed pairs classified as "UBPs" by SBC clearly understates the actual number of installed defective pairs that it will never be economical (or physically possible) to repair and restore to service. There are undoubtedly installed pairs that are defective (whether due to manufacturing defects or to deterioration or damage that has occurred over time) unbeknownst to SBC because SBC is not using those pairs to provide service and has not attempted to use them to provide service. SBC cannot consider classifying a pair as a "UBP" until it is aware that the pair is in fact defective.

Second, and more significantly, SBC is unlikely to evaluate whether a known defective pair is a "UBP" – i.e., whether repair of the defective pair is economically justifiable – until SBC faces a need to install new capacity in the area in which the defective pair is located.

Third, and most importantly, the Proposed Order's limitation of this adjustment to only UBPs does not go far enough because, although non-UBP defective pairs might be repaired and used to provide service in the future, in fact there is a significant number of defective pairs in SBC's network that will never prove economic to repair and restore to being available capacity. SBC's own internal guidelines, which were placed into the record, establish that (for good reason) SBC will not always seek to reclaim defective pairs and convert them back into usable capacity. For example, SBC typically will not attempt to recover single defective pairs in underground and buried cable, defective pairs in a cable section between manholes, defective pairs in a section where adequate

other spare capacity exists, or defective pairs in areas where repair of the defective pairs would be insufficient to serve anticipated growth in demand. More generally, there needs to be a minimum number of defective pairs in a feeder or distribution section of the network before SBC will attempt to recover those defective pairs. (AT&T Joint CLEC Ex. 1.2, pp. 113, 119-23; TDS Cross Ex. 23P-24P; Tr. 600-614; see Joint CLEC Initial Br., p. 79, and Joint CLEC Reply Br., p. 34)

Additionally, there is no indication that, having made the decision to install new facilities rather than attempt to repair and use defective pairs, SBC removes the bypassed defective pairs from "available capacity". Thus, defective pairs that customers have been paying for on the theory that they represented spare capacity but which have been bypassed when it became necessary to use the spare capacity, continue to be carried as (and charged to customers as) spare capacity. (See Joint CLEC Reply Br., p. 34)

Moreover, SBC's fiber overlay initiatives also have an impact on whether defective pairs will ever be repaired (as well as on the general downward trend of SBC's fill factors over the last several years). Because SBC is installing new fiber capacity anyway (for reasons largely driven by other business considerations), thereby creating additional spare capacity, SBC has little or no reason to incur the cost to repair and restore defective pairs to usable status in the areas where new fiber capacity is being installed. This results in defective pairs that are unlikely ever to be restored to a condition of being usable capacity, yet they continue to be counted as "available capacity" in the fill factor calculation.

Further, SBC's overall levels of defective pairs have been increasing in recent years, both in absolute numbers and as a percentage of available and usable pairs, and have reached levels (for both copper feeder and copper distribution) that cannot be considered representative of a new, efficient, forward-looking network.[22] While cables can of course arrive for installation with manufacturing defects (and thus Joint CLECs do not recommend a zero defective pair percentage), no efficient, forward-looking design would include such a high percentage of defective pairs as presently exists in SBC's network. (See Joint CLEC Initial Br., pp. 78-79; Joint CLEC Reply Br., p. 44)

For all the foregoing reasons, the Proposed Order's modification to Dr. Liu's "adjusted actual fill factor" approach for UBPs does not go far enough. In their more accurate implementation of Dr. Liu's approach, Joint CLECs proposed setting the defective pair percentage in the fill factor calculation at no more 1% by wire center. The Proposed Order's rationale for only making an adjustment for UBPs and not for defective pairs more generally is that "Requiring the repair of all defective pairs in excess of 1% would be inefficient in the absence of need." (Proposed Order, p. 61) This is a completely irrelevant statement since whether SBC should repair more of the defective pairs in its current network is not at issue – what is at issue is, *what is the appropriate level of defective pairs that one would reasonably expect in a new, efficient, forward-looking network?* Clearly, that level is something considerably lower than the percentage of defective pairs currently reported in SBC's existing network (a reported

[22]SBC assigns proprietary status to its defective pair percentages. SBC's statewide defective pair percentages for copper feeder and copper distribution are provided at page 78 of the proprietary version of Joint CLECs' Initial Brief.

percentage which, for reasons stated above, doubtless understates the actual percentage of defective pairs in SBC's existing network).

Therefore, should the Commission decide to adopt Dr. Liu's adjusted actual fill factor approach, the Commission should go beyond the modification recommended by the Proposed Order (which is limited to excluding UBPs from the calculation), and should limit the percentage of defective pairs in the calculation to 1%. This is a defective pair percentage that SBC actually achieves in individual wire centers, so it is by no means unrealistic. (See Joint CLEC Initial Br., p. 87) Further, even if the Commission considers a defective pair percentage of 1% to be too low (even for a newly-installed, efficient, forward-looking network), it should still impose a specific limitation on the defective pair percentage in Dr. Liu's adjusted actual fill factor calculation. If the Commission looks at SBC's actual defective pair percentages for copper feeder and distribution (see p. 78 of proprietary version of Joint CLECs' Initial Brief), it will see that an assumed defective pair percentage of even 3% or 4% for the new, efficient network will be well below SBC's actual defective pair percentages.

(2) Use of Usable Capacity Fill Factors Complies with TELRIC Requirements and Will Establish Consistency Between SBC's Wholesale Cost Studies and Retail Cost Studies

Joint CLECs recommend that the Commission utilize SBC's "usable capacity" fill factors for purposes of setting its UNE loop rates. "Usable capacity" is the maximum physical capacity of the network less any capacity that is required for maintenance, testing and administrative purposes. Usable capacity fill factors represent the optimal usage capable of being sustained from an engineering perspective. (AT&T/Joint CLEC Ex. 1.0, p. 187) Usable capacity fill factors therefore represent a network whose

capacity is fully utilized to serve demand except for that capacity that is needed for maintenance, testing and administrative purposes to operate the network.

As the excerpts from the FCC's Local Competition Order quoted or summarized in the summary of Joint CLECs' position (above) show, the process prescribed by the FCC for calculating TELRIC-based rates requires that the ILEC first design and construct (conceptually) a forward-looking, least cost network that relies on the most efficient technology and configuration available. After having designed this least cost network, the ILEC is required to size that network consistent with a reasonable projection of its total demand. After having sized the network accordingly (and subsequently developing the total costs for such a network) the ILEC is then required to develop "per-unit costs" by dividing its total network costs by the projection of total demand used originally to size the network. Because the ILEC's redesigned forward-looking network will include only the latest technology (capable of being deployed very modularly), and because the ILEC will size the network based on a known quantity of demand (*i.e.*, the projection of its total demand), the only constraints that keep the ILEC from building the (hypothetical) forward-looking network with nearly full utilization of capacity are the maintenance, testing and administration requirements that necessitate that some capacity be set aside for these purposes. Thus, "usable capacity" fill factors represent the most reasonable interpretation of the FCC's fill factor requirements for TELRIC studies. (AT&T/Joint CLEC Ex. 1.0, pp. 196-197)

Paragraph 682 of the Local Competition Order specifies that "the per-unit costs associated with a particular element must be derived by dividing the total costs associated with the element by a reasonable projection of the actual total usage of the

element," while ¶685 correspondingly requires that the reconstructed local network employ the most efficient technology for "reasonably foreseeable capacity requirements". The "actual total usage" referred to in ¶682 is the demand that must be considered in developing per-unit costs, not the actual level of fill or utilization. Thus, developing a fill factor in accordance with the FCC's directives in ¶682 of the Local Competition Order requires a calculation of the actual demand divided by the most efficient amount of network capacity required to support it. That is exactly what the "usable capacity" fill factors represent – the most efficient utilization of the network, with the network's capacity fully utilized to serve demand except for the capacity needed to be kept aside (in accordance with sound engineering and economic guidelines) for maintenance, testing and administrative purposes. (AT&T/Joint CLEC Ex. 1.2, p. 74)

The Proposed Order rejects the adoption of usable capacity fill factors based on the argument that it would require the Commission to "ignore significant fixed and sunk costs associated with network deployment, the variability of future demand and quality of service requirements that demand additional spare capacity on demand", and that it "would not allow a carrier to recover its forward-looking network investment costs." (Proposed Order, p. 59) The Proposed Order's assertion that the fill factor method and calculation must take into account "fixed and sunk costs associated with network deployment," however, is fundamentally at odds with the FCC's TELRIC methodology, which assumes that all costs are variable and avoidable:

> In a TELRIC Methodology, the "long run" shall be a period long enough that all costs are treated as variable and avoidable. (Local Competition Order, ¶692)

The Proposed Order's reasoning is essentially an argument that "usable capacity" fill factors do not provide for unused capacity to serve long-term, future "ultimate" demand.

Again, however, this reasoning misapprehends the TELRIC requirements.[23] To calculate fill factors by including sufficient capacity in the forward-looking network to serve long-term demand (and dividing that capacity amount into current actual demand) would be economically unsound, and would not be consistent with the TELRIC requirement that an efficient, forward-looking network be assumed. The inclusion of long-term demand in the capacity component (denominator) of the fill factor calculation (along with current capacity in the numerator) would essentially force current customers to pay for capacity to be used to serve growth in usage by future customers. (*Id*., pp. 75, 77)

In contrast, the usable capacity fill factors represent an efficient network that is sized to meet demand in the most efficient manner. Further, as noted above, the Local Competition Order requires the use of "reasonably foreseeable capacity requirements." As the FCC noted in its recent TELRIC NPRM, this necessitates the consideration of at most anticipated short-term growth, but not long-term growth or "ultimate" demand. (TELRIC NPRM, ¶73) Thus, the FCC has made it clear that for purposes of determining fill factors, it is reasonably foreseeable short-term demand that must be considered, not "speculative" long-term or "ultimate" demand. (See AT&T/Joint CLEC Ex. 1.2, pp. 79-80) The "usable capacity" fill factors satisfy these requirements.

The Proposed Order's reasoning that "a usable-capacity-fill based UNE rate would not allow a carrier to recover its forward-looking network investment costs" (Proposed Order, p. 59) is also misplaced. First, this reasoning is circular, since it is

[23]Further, even if one concluded that the capacity of the efficient, forward-looking network must include some spare capacity to serve future demand, this in no way justifies providing for spare capacity in excess of 50% as found in SBC's existing distribution network.

premised on the assumption that the forward-looking network assumed for TELRIC purposes should include sufficient excess capacity at the outset to serve long-term growth in demand, which as shown above is an incorrect application of the TELRIC methodology. Second, it ignores the fact that if per-unit costs (which is the objective of the TELRIC calculation, *see* Local Competition Order, ¶682) are set correctly in the first instance, then as demand on the network grows and additional units are sold, the carrier's incremental revenues should match its incremental costs.

Moreover, the Proposed Order ignores another important reason for using SBC's usable capacity fill factors to calculate its wholesale UNE rates, namely, to achieve consistency between the fill factors used in these wholesale costing/pricing studies and the fill factors used in SBC's LRSIC retail costing/pricing studies. When calculating costs for purposes of its retail cost studies, including LRSIC studies required by Code Part 791, SBC uses usable capacity fill factors.[24] (AT&T/Joint CLEC Ex. 1.0, pp. 190) There is no reason from an engineering or economic viewpoint that the same fill factors should not be used in both wholesale and retail costing/pricing studies. SBC uses the same network, technicians and OSS platforms and methods to provide both its retail and its UNE products and services. The costs incurred by SBC to provision a given network element (whether ultimately unbundled to be provided at wholesale or provided as a component of a retail service) are the same. Further, functionally, SBC does not engineer its network with different capacity assumptions for wholesale and retail

[24]The Commission has recently conducted a rulemaking to review and revise Code Part 791, and at the conclusion of that rulemaking, adopted revisions to Part 791 but retained the requirement that usable capacity be used in LRSIC studies. (*Illinois Commerce Commission On Its Own Motion, Amendment of 83 Ill. Adm. Code 791,* Docket 99-0535 (Order issued Feb. 20, 2003)).

customers. Therefore, there is no reason to assume different amounts of spare or unused capacity in the (same) network in cost studies that are conducted for retail and wholesale purposes. (AT&T/Joint CLEC Ex. 1.2, p. 76; AT&T/Joint CLEC Ex. 1.0, pp. 188, 193-94, 198)

Additionally, a clear objective of the FCC's TELRIC methodology is the ability of CLECs to share in the economies of scale and scope that the incumbent itself enjoys in providing its retail services – so that both the ILEC and its competitors can compete on a level playing field. (AT&T/Joint CLEC Ex. 1.0, p. 188) This objective is thwarted if SBC is allowed to develop its UNE prices using markedly different inputs and assumptions than it uses to develop prices for its retail services. Whether SBC provides a loop as part of a retail network access line, or provides the same or a similar loop as a UNE loop, the same facilities are used, and the costs associated with providing both the retail and the wholesale product should be identical. (*Id*.) Simply put, using fill factor values to set SBC's UNE prices that are lower than the usable capacity fill factor SBC uses in its retail LRSIC studies will enable SBC to set *low* price floors for its retail services (and thereby to set lower prices for products and services for which it faces competition), while allowing SBC to impose much higher costs and prices for the same network components on its UNE-purchasing competitors. (*Id*., p. 189) Using the same fill factors for both wholesale and retail studies will avoid this outcome. In fact, in the recent Part 791 rulemaking, Ameritech itself advocated consistency between the assumptions used in TELRIC and LRSIC studies:

> Ameritech Illinois recommends that the key assumptions (cost of capital, economic lives, and fill factors) used in future LRSIC studies be made consistent with the assumptions used in TELRIC studies.[25]
>
> Regardless of whether the Commission determines that Ameritech Illinois' language regarding consistency should be adopted in this proceeding, I believe that TELRIC/LRSIC consistency should be a goal of public policy. Economic lives for the same piece of equipment are what they are, and to advocate or approve different lives in different studies could well be a results-driven exercise.[26]
>
> Simply said, higher cost of capital values, shorter economic lives, and lower fill factors produce higher cost estimates. Conversely, lower cost of capital values, longer economic lives, and higher fill factors produce lower cost estimates. Parties in this proceeding on both sides of these issues, as well as state commissions and the FCC, have expended enormous amounts of time and resources advocating their positions and attacking the positions of their opponents. Many of these arguments, in addition to being about the absolute values used in the studies, have also been about whether or not these assumptions in LRSIC and TELRIC should be consistent. Ameritech Illinois believes they should be, and establishing a requirement for cost study consistency in the rule will substantially reduce future debate and conserve the scarce resources of the parties and the Commission.[27]

As the above statements recognize, because both the LRSIC and the TELRIC methodologies are studying the same network (used to provide both retail and wholesale products), there is no logical basis upon which to suggest that different fill factors should be used in one type of study versus another.

Thus, both for reasons of TELRIC compliance and to achieve consistency between SBC's wholesale and retail costing and pricing studies, the Commission should

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[25]Direct Testimony of William C. Palmer on behalf of Ameritech Illinois, Docket 99-0535 (filed April 14, 2000), page 4, quoted at AT&T/Joint CLEC Ex. 1.0, p. 191.

[26]Direct Testimony of William C. Palmer on behalf of Ameritech Illinois, Docket 99-0535 (filed April 14, 2000), page 18, quoted at AT&T/Joint CLEC Ex. 1.0, p. 191.

[27]*Comments of Ameritech Illinois Regarding Recommended Changes to Part 791 Cost of Service*, Docket 99-0535, page 2 (emphasis supplied), quoted at AT&T/Joint CLEC Ex. 1.0, p. 192.

reject the Proposed Order's conclusion on Fill Factors, and should adopt SBC's "usable capacity" fill factors for purposes of calculating SBC's UNE loop rates. Further, for the most impactful network components, the usable fill factors are only 5% to 6% above the fill factor values adopted by the Commission in the TELRIC I Order.[28] As a result, adoption of the usable fill factors should have only a modest impact on the currently-effective UNE loop prices and would be consistent with the objective of rate stability which is critical to continued development of a competitive local exchange market. As the Commission correctly stated in the TELRIC I Order, "If local exchange competition is to develop, potential competitors require a stable pricing environment within which to develop business plans." (TELRIC I Order, p. 34)

(3) If the Commission Does Not Adopt SBC's Usable Capacity Fill Factors, It Should Continue to Use the Target Fill Factors it Adopted in the TELRIC I Order

As discussed in the preceding section, Joint CLECs recommend that the Commission adopt SBC's usable capacity fill factors in setting UNE loop rates. If it declines to adopt usable capacity fill factors, however, the Commission should continue to use the target capacity fill factors it adopted in the TELRIC I Order.

In the TELRIC I case, the Commission decided, after extensive analysis, that Ameritech's target fill factors best satisfied the FCC's forward-looking cost methodology. (TELRIC I Order, p. 34) Target fill factors represent the level of network utilization at which it would be more cost-efficient for the carrier to supplement its network (add new capacity) rather than to increase the amount of utilization on its existing facilities.

[28]See the table at page 50 of Joint CLECs' Initial Brief (proprietary version) showing the fill factor values for the principal network components under the SBC, Joint CLEC and Dr. Liu proposals in this case.

(AT&T/Joint CLEC Ex. 1.0, p. 202) As the Commission pointed out in the TELRIC I Order, the "target fill factor" concept was proposed by Ameritech. Further, in describing Ameritech's fill factor proposal in that case, its witness William Palmer testified that Ameritech had purposely constructed its target fill factors to accommodate the additional demands of unbundling and increased customer churn resulting from the 1996 Act, as well as the FCC's definition of fill factors in the Local Competition Order:

> To understand how Ameritech Illinois actually developed its unbundled loop unit costs, it is first necessary to understand the evolution of the fill factors used in those studies. Prior to the Act, Ameritech Illinois employed usable capacity fills, that is, the maximum physical capacity of the network less the capacity required for maintenance, testing and administrative purposes. In response to the fundamental changes in our business signaled by enactment of the Act and in anticipation of the release of FCC cost rules in CC Docket 96-98, we made a "fresh look" adjustment in June 1996 to our usable capacity fills. This adjustment was based on our recognition that usable capacity fill would shrink as the network capacity required for maintenance, testing and administrative purposes increased due to the rise in unbundling and churning expected in the wake of the Act.
>
> Instead, we developed and employed "target" fill factors – the optimal usage level above which point it is more cost effective to add plant and capacity rather than increase the utilization of the existing plant. **These target fills realistically reflect efficient network use and are appropriate for the development of forward looking economic costs.**
>
> Thus, Ameritech Illinois' cost studies involved two fill factor adjustments, accounting for both the fresh look modifications, which simply adjusted the usable fill to reflect greater expected churn and maintenance, and **the target fill modifications, which reflected the qualitative change in methodology from usable to "reasonably accurate" fill**.[29]

[29]Rebuttal Testimony of William Palmer on behalf of Ameritech Illinois in ICC Dockets 96-0486/96-0569 (Cons.), Ameritech Illinois Ex. 3.1, pp. 14-15, quoted at AT&T/Joint CLEC Ex. 1.0, pp. 185-86 (emphasis supplied). Note that Mr. Palmer's reference to "the qualitative change in methodology from usable to 'reasonably accurate' fill" expressly recognizes the appropriateness of the target fill factor concept to satisfy the FCC's TELRIC requirement that "per-unit costs shall be derived from total costs using reasonably accurate "fill factors" (estimates of the proportion of a facility that will be "filled" with network usage)." (Local Competition Order, ¶682)

In short, the target fill factors were developed by Ameritech to be compliant with the new TELRIC concepts of forward-looking economic costs based on efficient network use and the FCC's directive to develop and use "reasonably accurate" fill factors, as well as the new requirements placed on the network by local service competition. The target fill factors satisfied these TELRIC requirements because the target fill factors represented the optimal level of network usage.

In the TELRIC I Order, the Commission agreed with Ameritech's proposal to use the target fill factors in setting UNE rates, stating:

> We will adopt "target" fill factors as suggested by Mr. Palmer, because we agree with him that TELRIC-based prices are reasonably based on the "optimal usage level above which it is more cost effective to add plant and capacity rather than increase the utilization of the existing plant." (TELRIC I Order, p. 34)

The Commission also concluded that "the difference between usable capacity and target capacity provides capacity to meet growth. When the target is reached more capacity needs to be added." (*Id*.)

The Proposed Order states, "As we noted in the TELRIC I decision, target fills are not synonymous with the fill level achieved in an efficient, forward-looking network." (Proposed Order, p. 59) The Proposed Order provides no citation to the TELRIC I Order for this statement, and the TELRIC I Order does not say this. To the contrary, as quoted above, the Commission expressly concluded in the TELRIC I Order that "TELRIC-based prices are reasonably based on the 'optimal usage level above which it is more cost effective to add plant and capacity rather than increase the utilization of the existing plant'", *i.e.*, target fill factors.

The Proposed Order erroneously rejects target fill factors on the same basis that it erroneously rejects usable capacity fill factors, namely, that this approach purportedly

fails to consider the amount of fixed and sunk costs in the existing network and the need for adequate spare capacity. (Proposed Order, pp. 59-60) Again, the Proposed Order has ignored one of the fundamental premises of the FCC's TELRIC methodology, namely, that all costs of the new, efficient, forward-looking network are variable and avoidable and there are no fixed and sunk costs. More importantly, here, as with usable capacity fill factors, the Proposed Order ignores the fact that the FCC's TELRIC Methodology for calculating per-unit costs requires (as described in the discussion of usable capacity, above) that the ILEC design (conceptually) an efficient, forward-looking network sized to serve a reasonable, projected level of demand, calculate the total cost of that network, and then divide the total cost by the amount of demand that the network was sized to serve.

In addition to being supported by Joint CLEC witnesses as an acceptable second option to "usable capacity" fill factors, continued use of the target fill factors that the Commission adopted in the TELRIC I Order was endorsed by other witnesses not representing SBC Illinois' wholesale customers. In his direct testimony, Commission Staff witness H.R. Green, the Commission's Chief Telecommunications Engineer, recommended that the Commission continue to use the fill factors it adopted in the TELRIC I Order. (Staff Ex. 10.0, pp. 15, 18) Additionally, William Dunkel, witness for the Attorney General, recommended that the Commission continue to use the fill factors that it adopted for SBC in the TELRIC I Order. (AG Ex. 1.0, p. 36)

There is one other consideration that is important here: Under the FCC's TELRIC rules, SBC has the burden to demonstrate that its proposed prices are TELRIC compliant. (47 C.F.R. 51.505(e)) The Proposed Order finds, correctly, that SBC has

failed to show that its current actual fills are efficient and forward-looking. (Proposed Order, pp. 55, 62) The logical result of that conclusion (as Staff in fact recommended in its direct testimony) would be that the Commission continue to use what it found to be appropriate in setting SBC's current TELRIC prices, *i.e.*, continue to use the target fill factors – not (as the Proposed Order does) adopt another witness' new but unfounded approach.

Accordingly, if the Commission does not decide to use SBC's usable capacity fill factors as recommended by Joint CLECs, the Commission should continue to use the target fill factors it adopted in the TELRIC I Order. In addition to comporting with the forward-looking TELRIC methodology, as the Commission found in the TELRIC I Order, the continued use of the target fill factor values would promote stability and continuity in SBC's UNE loop prices. This consideration is particularly important with respect to the determination of fill factors given the significant impact that the fill factor values used (and any change in fill factor values) will have on the overall UNE rate calculation under the SBC cost model.

(4) Dr. Liu's Proposed "Adjusted Actual Fill Factor" Values Are Totally Without Support; the Commission Should Reject Adoption of These Fill Factors

Although finding flaws in Dr. Liu's "adjusted actual fill factor" proposal, the Proposed Order would have the Commission adopt it (with minor modifications that are discussed in subsection (i) above). As noted in subsection (iii) above, having found flaws not only in Dr. Liu's approach, but also in SBC's and the Joint CLECs' recommended approaches, the logical action for the Commission would be to continue

to use the methodology (and specific values) it found to be appropriate in setting SBC's current UNE prices, *i.e.*, target fills.

Dr. Liu's proposed fill factor values are nothing but a completely arbitrary, empirically unsupported and relatively modest adjustment to SBC's current actual fill factors, which serve no real purpose in this proceeding other than providing the Commission with "cover" for granting SBC essentially the fill factor treatment it has been pleading for for close to two years but which SBC has never been able to support with evidence.[30] Indeed, the Proposed Order admits, "We are troubled by the absence of specific calculations based upon the evidence supporting the forward looking actual fill factor" adjustments proposed by Staff. (Proposed Order, p. 62) Even this is a generous characterization of the "basis" for Dr. Liu's proposed fill factor values. Following is the totality of the support that Dr. Liu provided for her 7.5% (feeder and DLC components) and 15% (distribution components) adjustments to SBC's actual network capacity:

> Q. What are the adjustments that you make to the total network capacity for different loop components?
>
> A. I make 15% adjustments to the total capacity of SBC distribution plant, and 7.5% capacity adjustments to SBC's feeder plant and DLC capacity. I make no adjustment to SBC network capacity for circuit equipment.
>
> Note that a 15% adjustment to SBC's actual distribution plant capacity implicitly assumes that 15% of distribution plant capacity has been built due to "innocent mistakes" such as incomplete information or imperfect forecasts of the future events,

[30]For example, Dr. Liu's distribution fill factor values are only about seven percentage points higher than the current actual fill factors proposed by SBC (see table on p. 50 of Joint CLECs' Initial Brief (proprietary version)), and are still at or below 50%, a level of fill factor that this Commission recently told the FCC would indicate that the network was not designed for efficiency. (ICC TELRIC NPRM Comments, p. 34) The increases in Dr. Liu's fill factors for other network components over the current actual values proposed by SBC are even smaller.

> and it is thus not part of a forward-looking network. Similarly, a 7.5% adjustment to feeder plant capacity assumes that 7.5% of the total feeder plant capacity has been built due to "innocent mistakes," and it is not part of a forward-looking network. These adjustments would at least be sufficient to account for *ex post* inefficient network plant that has been cumulatively built due to incomplete information or imperfect forecasts. (Staff Ex. 25.0, pp. 28-29)

Dr. Liu confirmed that she had no supporting materials, data or analysis for her proposed 15% and 7.5% adjustments other than her testimony quoted above. (Tr. 1003; TDS Cross Ex. 34)

At pages 55-58, the Proposed Order contains a lengthy discussion of the "theory" purportedly supporting Dr. Liu's "adjusted actual fill factor" calculations. This discussion was apparently lifted from Staff's brief, although Staff did not choose to submit it in its "Summary of Position" that the ALJs required all parties to submit, nor did the Proposed Order include any of this discussion in its subsection on "Staff's Position" on Fill Factors (Proposed Order, p. 53), which is a mere two paragraphs. While someone deserves an "A" in Creative Writing class for trying to create a silk purse out of the sow's ear, that is Dr. Liu's explanation of the "basis" for her proposed values (quoted above). The Proposed Order's lengthy discussion does not actually explain or justify Dr. Liu's specific adjustments to SBC's actual fill factors. Rather, after three pages of abstract discussion, the Proposed Order leaps to this conclusion:

> Staff argues, and we agree that 15% adjustments to the total capacity of SBC distribution plant, and 7.5% capacity adjustments to SBC's feeder plant and digital loop carrier ("DLC") capacity seem to be reasonable adjustments. Staff notes that a 15% adjustment to SBC's total actual distribution plant capacity assumes that 15% of distribution plant capacity is excessive and unnecessary and not part of a forward-looking network. Similarly, Staff notes that a 7.5% adjustment to feeder plant capacity assumes that 7.5% of the total feeder plant capacity has been

> built in error and should not be part of a forward-looking network. (Proposed Order, p. 58)[31]

Thus, the Proposed Order's actual "reasoning" for adopting Dr. Liu's specific proposed adjustments does no more than reiterate the wafer-thin explanation in Dr. Liu's testimony.

The bottom line is this: the record overwhelmingly demonstrates that SBC's current actual network capacity and network utilization rates (fill factors), are not representative of the utilization rates in a newly-constructed, efficient, forward-looking network that uses the most efficient telecommunications technology available. Indeed, the Proposed Order requires only two paragraphs of text to dispose of the notion that using SBC's current actual fill factors would be TELRIC compliant. Given this, applying a set of minor, arbitrary and empirically-unsupported adjustments to SBC's actual network capacity values does not result in a set of fill factors that is any more compliant with the requirements of the FCC's TELRIC methodology.

The record contains an alternative set of "adjusted actual fill factors" that were calculated based on applying a set of adjustments to SBC's current actual fill factors that have the same level of empirical support as do Dr. Liu's adjustments. These alternative fill factor values are set forth at pages 11-12 of AT&T/Joint CLEC Exhibit 1.3 (proprietary version). They were calculated by applying 15% adjustments (rather than 7.5%) to the capacities of SBC's feeder and DLC components and 30% adjustments (rather than 15%) to the capacity of SBC's distribution components. Not only are these

[31]Other than this paragraph and one other statement in the first full paragraph on page 57, the entire discussion at pages 55-58 of the Proposed Order under the heading "Staff's Forward Looking Actual Fills" is a summary of Staff arguments, not proposed conclusions by the Commission.

fill factor values just as well supported as Dr. Liu's proposed values, but they have the advantage of being a less drastic departure from the fill factor values that the Commission adopted in the TELRIC I Order and that are incorporated in SBC's currently-effective UNE loop rates. Accordingly, if the Commission decides to adopt "adjusted actual fill factors" by making arbitrary percentage adjustments to SBC's actual network capacity (as Dr. Liu proposed), the Commission should use the fill factor values set forth on pages 11-12 of AT&T/Joint CLEC Exhibit 1.3, rather than Dr. Liu's proposed values. The Proposed Order's modifications to these values for 1998 fill factor information and defective pairs (as further modified as discussed in subsection (i) above) should also be made.

(5) If the Commission Decides to Adopt Fill Factors That Are Based on SBC's Current Actual Network Capacity and Utilization, It Should Adopt Joint CLECs' More Accurate Implementation of Dr. Liu's Approach

As shown in subsection (iv) above, Dr. Liu's proposed fill factor values are simply arbitrary adjustments to SBC Illinois' current actual fill factors that have no empirical basis – a fact about which even the Proposed Order expresses discomfort. (Proposed Order, p. 62) However, Joint CLEC witnesses Starkey and Fischer testified that Dr. Liu's theoretical concept – to adjust SBC's actual network capacity to remove the impacts of efficiency (or perhaps more accurately, to reflect the most efficient practices) – could have merit if implemented appropriately. Unfortunately, Dr. Liu did not conduct a sufficiently detailed analysis and failed to provide empirical support in applying her own theory. (AT&T/Joint CLEC Ex. 1.3, pp. 3-4, 17-18) Messrs. Starkey and Fischer, however, did present a more accurate implementation of Dr. Liu's approach. (*Id*., pp. 18-28) The resulting fill factor values are set forth on Attachment MS/WF-23 to

AT&T/Joint CLEC Exhibit 1.3, and are summarized for the major network components in the table on page 50 of Joint CLECs' Initial Brief (proprietary version). If the Commission decides to adopt a set of fill factor values that are based on SBC's actual network capacity and utilization rates as a starting point (rather than the more theoretically justified usable capacity fill factors or target capacity fill factors), the Commission should adopt the fill factors produced by Joint CLECs' more accurate implementation of Dr. Liu's approach.

Joint CLECs' more accurate implementation of Dr. Liu's approach is based on the practice of economists in measuring the inefficiency of a particular entity by comparing it with the best observed practices. The best observed practices represent a "frontier" against which the relative efficiency of entities can be measured. (AT&T/Joint CLEC Ex. 1.3, p. 18) In a competitive industry, the mechanism of the competitive market drives the participants towards efficiency. In a monopoly market, however, this is not necessarily the case, and there are no competitors to provide a benchmark of efficiency against which to judge the company under consideration. The frontier approach can still be applied, however, by attempting to identify the most efficient operations of the monopoly and comparing the rest of its operations to those most efficient operations. (*Id*., pp. 18-19)

Joint CLECs implemented a more accurate implementation of Dr. Liu's approach by applying the frontier approach to SBC's capacity utilization at the wire center level. (*Id*., p. 19) Some SBC wire centers tend to have high fill factors over time and others tend to have low fill factors over time, which suggests that some wire centers are more efficient relative to other wire centers. (*Id*., pp. 19-20) In addition, there is a wide

variance among SBC wire centers in terms of numbers of defective pairs. Moreover, as discussed earlier, a high percentage of defective pairs is not consistent with a new, efficient, forward-looking network. Since in a number of SBC wire centers, defective pairs constitute 1% or less of usable capacity, this percentage appears to represent the best-observed practice. Joint CLEC witnesses Starkey and Fischer therefore set the defective pair percentage at 1% in all wire centers in which the actual percentage is greater than 1%. Using these adjusted counts of defective pairs, they then recalculated the usable capacity (which includes defective pairs) in each wire center. (*Id*., pp. 20-21)

Messrs. Starkey and Fischer then selected from SBC's January 2002 fill data base the 20 wire centers for each network component that had the best fill factors (after the adjustment for defective pairs described above).[32] The best 20 wire centers were selected independently for each network component (*i.e*., the best 20 wire centers were not identical from network component to network component). After selecting these wire centers, Messrs. Starkey and Fischer reviewed subsequent data to determine if significant increases in capacity had occurred in each wire center after January 2002.[33] If a subsequent capacity increase in one of the selected wire centers was observed, that wire center was discarded from the group of 20 and replaced with the wire center with the next highest fill. Messrs. Starkey and Fischer also checked that the selected wire centers varied considerably in size (pair counts), so that the selected wire centers did not consist solely of either small/rural or large/urban central offices. Finally, for each

[32]Twenty wire centers constituted approximately 7% of the wire centers in SBC's fill data base. (AT&T/Joint CLEC Ex. 1.3, p. 22)

[33]Such capacity increases would suggest that the observed high fill factor in a wire center had been unsustainable and that capacity relief had been required. (AT&T/Joint CLEC Ex. 1.3, p. 23)

network component a weighted average of the fill factors in the 20 wire centers was calculated. (*Id*., pp. 22-23) The resulting fill factors for the major network components, on a state-wide basis, are shown in the table on page 88 of Joint CLECs' Initial Brief (proprietary version).

Messrs. Starkey and Fischer made one other adjustment to the calculated fill factors. Specifically, in light of the fact that SBC's fill factors have been falling over time, they compared SBC fill factor data for 1998 to the fill factor data for January 2002.[34] They selected 1998 for two reasons: (1) it was the year before SBC initiated its fiber/broadband overlay initiative, and (2) it was a "middle" year (*i.e.*, neither best nor worst) in the business cycle. (*Id*., pp. 23-25) The comparison of SBC's distribution fill factors in 1998 to those in January 2002 showed that the 1998 fill factors were higher than the January 2002 fill factors. (*Id*., p. 25) Accordingly, Messrs. Starkey and Fischer revised the adjusted fill factors for each of the three SBC zones by the ratio of the 1998 fill factor to the January 2002 fill factor. This adjustment was made only for distribution fill factors since data needed to make the 1998-January 2002 comparison was not provided for other network components. (*Id*.)

The final, adjusted actual fill factors for the major network components are shown in the table on page 89 of Joint CLECs' Initial Brief (proprietary version). These fill factors represent SBC's actual fill factors adjusted to remove the following types of inefficiencies: (i) relative inefficiency of SBC's wire centers as measured against its "best" wire centers; (ii) unreasonable proportions of defective pairs in individual wire

[34]SBC made fill factor data from 1997 forward available, so that was the available body of data from which an earlier year could be selected for comparison purposes. (AT&T/Joint CLEC Ex. 1.3, p. 24)

centers; and (iii) short-term decreases in capacity utilization associated with the business cycle or other short-term events such as SBC's fiber overlay initiative. (AT&T/Joint CLEC Ex. 1.3, p. 27)

In its Initial Brief, SBC offered several criticisms of Joint CLECs' more accurate implementation of Dr. Liu's approach. The Proposed Order parrots some of SBC's criticisms in declining to adopt Joint CLECs' approach. However, all of SBC's criticisms were meritless.

SBC's first criticism was that Joint CLECs' adjustment for efficiency was based on only 20 wire centers that were unduly skewed towards tiny, rural offices. (The Proposed Order parrots this criticism at pages 60-61.) However, the transcript pages that SBC cited (Tr. 1782-87) do not support SBC's assertion and in fact show that Mr. Starkey repeatedly disagreed with SBC counsel's assertions to that effect. More importantly, Mr. Starkey testified affirmatively that the selected offices were fairly well distributed among larger and smaller offices, and that the analysis contained fairly large, medium size and fairly small offices. (Tr. 1782, 1783, 1787) Among wire centers used in the analysis were Wilmette, Grayslake, Chicago Kildare, Cary, Hickory Hills, Oak Lawn, Fox Lake, Wauconda, Chicago Beverly, Chicago Edgewater, Algonquin, Collinsville, Plainfield, Frankfort, Romeoville, Chicago Stewart and New Lenox. (SBC Cross Ex. 48P) Mr. Starkey explicitly testified that the 20 wire centers selected for each of the network components produced a reasonable distribution of communities and geographic areas served in terms of demographics.[35] (Tr. 1851-52)

[35]SBC also made the somewhat inconsistent criticism that for each network component, a few of the offices accounted for a large proportion of the total lines among the 20

Second, SBC suggested that Joint CLECs should have somehow "controlled" for the fact that some of the wire centers selected are (according to SBC) in "mature" communities with no capacity for growth. (SBC Initial Br., p. 53; the Proposed Order also parrots this assertion at pages 60-61.) SBC asserted that the wire centers selected by Messrs. Starkey/Fischer include both wire centers in "mature" communities with no capacity for growth and wire centers in "young" communities that have not yet "grown into" their capacity (*Id*.), although there is nothing in the record to support that characterization. Indeed, Mr. Starkey expressly disagreed with SBC's hypothetical assumption that a "mature" community would have no potential for growth in demand, because the fact that a community has a stable population does not necessarily mean that it cannot experience increased demand for telecommunications services.[36] (Tr. 1758, 1848-49)

As part of this second criticism, SBC complained that the 20 wire centers selected by Messrs. Starkey/Fischer did not include any Zone A (*i.e.*, downtown Chicago) wire centers. However, as Mr. Starkey pointed out, certain of the network components (such as DLC chassis) typically are not used in downtown Chicago wire centers. (Tr. 1792-1793) Moreover, not including downtown Chicago wire centers is not inconsistent with the focus of this case which is primarily on the TELRIC rates for UNE loops used to serve mass market customers (*e.g.*, 2-wire analog loops). Further,

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offices (SBC Initial Br., p. 53), but that is the natural result of having a wide distribution of larger, medium-sized and smaller offices.

[36]Mr. Starkey disagreed with SBC counsel's hypothetical that any community could have no potential for growth in demand for telecommunications services. (See Tr. 1758-59)

the wire centers that Messrs. Starkey and Fischer used include several large wire centers within Chicago even if not in Zone A. (Tr. 1791-1792; see SBC Cross Ex. 48P)

In any event, SBC's first two criticisms (and the Proposed Order's reliance on those criticisms) missed the point of Messrs. Starkey and Fischer's analysis. The purpose of the analysis was not to take a statistically valid random sample of all of SBC's wire centers – the resulting fill factors would have simply devolved to SBC's existing fill factors. Rather, the point of the analysis was to identify the wire centers in which SBC has achieved the most efficient utilization of its capacity, as a benchmark against which the overall efficiency of all SBC wire centers could be judged. (See Joint CLEC Initial Br., pp. 87-88; Joint CLEC Reply Br., pp. 42-43) Moreover, as Mr. Starkey explained, regardless of whether a wire center is "mature" or not, or large or small, the point of a TELRIC study is to build a network efficiently sized to meet the reasonably foreseeable demand. (Tr. 1849-50) The point of the Joint CLECs' more accurate implementation of Dr. Liu's approach is to show that in some wire centers SBC has been able to do that more effectively than in others, and that the more efficient wire centers should provide a benchmark for the efficiency of the entire forward-looking network. (See AT&T/Joint CLEC Ex. 1.3, pp. 18-22)

SBC's third criticism was that Joint CLECs failed to take into account the fact that in some areas SBC may have installed copper and fiber facilities side by side with one set of facilities having a higher fill factor and the other set having a lower fill factor. (SBC Initial Br., pp. 53-54) However, SBC's point (which the Proposed Order did not adopt) simply substantiated one of the reasons that SBC's current actual fill factors do not represent an efficient, forward-looking network: namely, that SBC's current fill

factors are depressed due to SBC's installation of fiber overlays to the copper distribution network, in anticipation of future demand for advanced services. SBC's point also illustrated the distortion (discussed in subsection (i) above) created by SBC's inclusion of defective pairs in "available capacity", because SBC may have decided to install new fiber facilities to serve demand growth rather than repair the defective pairs in the existing copper facilities. More generally, this criticism illustrated why SBC's current actual fill factors are not representative of a newly-designed, efficient, forward-looking network: low fill factors for one network component may be the consequence of high fill factors for another component. Finally, SBC's third criticism again missed the point of Joint CLECs' more accurate implementation of Dr. Liu's approach, which was to identify where SBC has been able to achieve the most efficient utilization of <u>each</u> network component.

SBC's fourth criticism was that Joint CLECs adjusted the defective pair percentages for copper distribution in all SBC central offices to 1% of usable capacity (based on the observation that defective pairs constitute 1% or less of the capacity in a number of SBC wire centers), without attempting to determine if 1% defective pairs was a sustainable percentage for the entire network. SBC (and the Proposed Order, at page 61) argued that 1% is not a sustainable percentage because it is not economically justified for SBC to repair defective pairs unless necessary to meet an immediate capacity need. However, as discussed in subsection (i) above, this assertion is irrelevant to determining the defective pair percentage likely to be observed in a newly-designed and newly-installed efficient network. In such a network, the only defective pairs to be expected would be those that resulted from manufacturers' defects in the

newly-purchased and installed cables. Certainly, neither SBC nor this Commission would tolerate defective pair percentages in a newly-installed network anywhere near as high as the actual defective pairs percentages in SBC's existing network. (See AT&T/Joint CLEC Ex. 1.3, pp. 20-21)

The Proposed Order declines to adopt the fill factors produced by Joint CLECs' more accurate implementation of Dr. Liu's "adjusted actual fill factor" approach. In addition to relying on two of SBC's unfounded criticisms, the Proposed Order also engages in a discussion as to why actual fill factors could vary from wire center to wire center without the variance necessarily evidencing "inefficiency." (Proposed Order, p. 61) In this latter discussion, the Proposed Order misses the point of the overall fill factor determination, which is to determine the network utilization to be expected in a newly-installed, efficient, forward-looking network, as required by the FCC's TELRIC methodology, not to explain the actual fill factors in SBC's existing network.

At this point in its discussion the Proposed Order has already determined, correctly, that SBC's current actual fill factors are not representative of an efficient, forward-looking network and that using SBC's current actual fill factors would not be TELRIC compliant. The Proposed Order has already made the determination to use SBC's actual network capacity and utilization as a starting point to determining TELRIC-compliant fill factors. Therefore, at this point in the Proposed Order, the only relevant question is, which is a better approach to arrive at TELRIC-compliant fill factors: To make arbitrary and empirically-unsupported adjustments to SBC's actual network capacity, as Dr. Liu did; or to make adjustments that actually have a basis in logic, in actual data as to the fill factors that SBC has *actually been able to achieve* in some of

its wire centers, and in the amount of defective pairs that should be considered as available capacity in the efficient, forward-looking network – as Joint CLECs have provided for the Commission. The superiority of Joint CLECs' approach is obvious.

In summary, should the Commission decide to base the fill factor values used in this case on SBC Illinois' actual network capacity utilization data as a starting point, the adjusted fill factors calculated by Joint CLECs provide a superior, more logically-grounded and empirically-based set of values than do the arbitrary fill factor values proposed by Dr. Liu.

Proposed Replacement Language

The following changes should be made to Section III.B.1.f, "Commission Analysis and Conclusion", of the Proposed Order. Note that, as indicated throughout, alternative language is provided for alternative outcomes in accordance with the exceptions discussed in subsections (i) through (v) above.

A fill factor, for purposes of this proceeding, is a utilization rate that is assumed or used in cost models or studies (such as for TELRIC and LRSIC) to develop rates. Fill factors are a construct used to recover the total investment costs developed for loop elements. Fill factors used in cost studies are generally fills or utilization rates measured at the network level, that is, the percentage of the network capacity that is being or would be utilized associated with the relevant fill concept.

The FCC has provided the following guidelines regarding the appropriate choice of fills under a TELRIC methodology:

> Per-unit costs shall be derived from total costs using reasonably accurate "fill factors" (estimates of the proportion of a facility that will be "filled" with network usage); that is, the per-unit costs associated with a particular element must be derived by dividing the total cost associated with the element by a reasonable projection of the actual total usage of the element. First Report and Order, at par. 682.

Other relevant FCC guidance on the determination of appropriate fill factors for TELRIC purposes is found in paragraphs 683, 685, 690 and 692 of the First Report and Order and in the FCC's TELRIC regulations, 47 C.F.R. §51.511(a).

Fill factors measure spare or unused capacity. Loop spare capacity (like spare capacity for other network elements) exists in a carrier's existing network because the carrier, for purposes of accommodating future demand growth, normally places loop facilities in excess of what the carrier immediately needs to serve its customers. The primary costs of loop deployment are the fixed and sunk costs associated with physically laying cable (e.g., digging up the streets and trenching for placement of cable); and the total costs of cable placement vary little with the cable size. Carriers thus normally place more copper and fiber facilities than they immediately need to avoid the future high duplicate costs to retrench the same location should demand for additional loop facilities occur. Accordingly, in theory, the existence of spare capacity is the logical result of a carrier's long run optimal investment strategy in a growing market. On the other hand, depending on the timing with which additional demand is expected to materialize and taking into account the time value of money, as must any proper economic analysis, installation of substantial excess capacity today, which customers must pay for today, in order to minimize the cost of serving new demand when it materializes in the future, is not necessarily the economic choice. Whether SBC's network contains an efficient amount of spare capacity or whether the amount of spare capacity for which SBC has designed its network is the result of efficient, cost-effective practices has not been demonstrated in this record.

SBC and Staff ~~convincingly show~~ assert that the amount of spare capacity is mainly driven by: (1) the fixed and sunk costs associated with loop deployment and (2) the expectation of demand growth. If the demand in a particular serving area were expected to stay the same over time, then there would be no need to build extra capacity for the purpose of accommodating possible future demand growth. The network then could be designed or engineered at a capacity level that is consistent with target fill (i.e., the utilization rate above which it is more cost effective to add plant and capacity than increase the utilization of existing plant). By the same token , if there were no fixed and sunk costs associated with loop deployment, then there would be no need to engineer the extra loop facilities to accommodate future demand growth, and the carrier, instead, would only need to place loop facilities that it immediately needs to serve its customers. The carrier could simply add loop facilities as additional demand arises. In the real world, however, these two scenarios are extremely unlikely.

The higher the fixed and sunk costs, the less frequently would the network operator wish to add capacity ; and – assuming all else equal -- this would be accomplished by building or engineering more capacity at the time of deployment (or plant reinforcement). Fixed and sunk costs explain, to a great extent, why a carrier engineers different amounts of spare capacity for different network elements. For example, the spare capacity built into circuit equipment or switching equipment is much lower than the spare capacity built into distribution plant because the fixed and sunk costs associated with the deployment of switching or circuit equipment are generally much lower than the fixed and sunk costs associated with the deployment of distribution plant.

While the factors summarized in the preceding two paragraphs help to explain why SBC's existing network has significant excess capacity, they are essentially

irrelevant for TELRIC purposes. The FCC has made it clear that a TELRIC analysis must be based on a period long enough that all costs are treated as variable and avoidable, thus fixed and sunk costs should not be considered. The basic steps in calculating per-unit costs under the TELRIC methodology, which are to be used to set an ILEC's rates for unbundled network elements, are to (1) identify a reasonable projection of the total actual usage necessary to accommodate the entirety of the ILEC's wholesale and retail services, (2) design a network sized to serve that demand using the most efficient, least-cost forward-looking network technology currently available, (3) calculate the total costs of that network, and (4) divide the total costs by the projected total demand identified in step (1).

Use of fill factors is required because an efficient, forward looking network will include some level of spare capacity for maintenance, testing and administrative purposes ~~and to meet future demand and service quality requirements~~. The spare capacity of an efficient, forward looking network imposes legitimate investment costs but does not generate revenue ~~for the period of time~~ because it is spare unused capacity that cannot be sold to customers because it must be withheld for these purposes. Thus, fill factors allow full recovery of a carrier's total investment costs by fully allocating those costs based on the projected actual usage of the element or component.

In ICC Docket Nos. 96-0486 / 96-0569 (consol.) (the "TELRIC I Proceeding") the Commission previously considered and developed fill factors for SBCI (then Ameritech Illinois). CLECs proposed then that we employ usable capacity fill with values as established by this Commission for Ameritech's LRSIC study. Staff in the TELRIC Proceeding agreed with Ameritech on the fill concept to be used – "target fill" --- but differed with Ameritech as to the appropriate values "target" fill should take. (TELRIC I Order, at 32-35). The Commission adopted Staff's proposal – i.e., the target fill concept with higher fill values, specifically finding that TELRIC-based rates were appropriately set using this approach. TELRIC I Order, at 29-35. Because the Commission was presented with and considered only two fill concepts -- target fill and usable capacity fill – its decision was necessarily based on a determination that target fill was a more reasonable or appropriate fill-factor-proposal than usable capacity fill (and did not determine that target fill must be used in future rate proceedings).

Thus, this proceeding allows us to consider methodologies for determining fill factors that reflect the FCC's "projections of the actual total usage" approach expressed in the FCC's Local Competition Order. At the same time, however, the FCC's TELRIC rules make it clear that SBC has the burden to prove that its proposed UNE rates are calculated in compliance with the TELRIC methodology. Therefore, unless SBC meets its burden of demonstrating that it has proposed a fill factor methodology and specific set of values that are more TELRIC-compliant than the fill factor values adopted in the TELRIC I Proceeding, there is no basis for the Commission to use different fill factors in this docket than it employed in setting SBC's currently effective UNE rates.

SBC's Proposal

In this docket, we are presented with a broad spectrum of proposed alternatives on this issue. SBC urges us to adopt its actual fill rates as the benchmark for UNE pricing. In other words, SBCI urges us to accept its existing network as the benchmark for computing UNE costs.

CLECs and Staff argue that this approach is inconsistent with the FCC requirement that pricing is to be predicated on the costs generated in a hypothetical, "forward looking" most efficient network. They contend there are a variety of reasons why SBC's network is not forward looking. SBC's network was constructed over a long period of time. It incorporates design and engineering specifications that are no longer considered to be cutting edge. Assumptions made at the time of installation regarding future demand have in some cases proved to be incorrect. Changes in demographics have, with the passage of time, led to unused and underutilized installed equipment. In some cases the limitations imposed by standardized equipment sizes have lead to the installation of excess and unusable capacity.

Because of perceived inefficiencies inherent in SBC's actual fill factors, which are addressed below, we reject the use of SBC's proposed actual fill factors.

Staff's Forward Looking Actual Fills

Staff notes that the FCC has directed state regulators to derive fill factors based upon the "projections of the actual total usage". Staff contends that the ~~The~~ FCC has not provided any instructions on how to develop fill factors pursuant to this approach beyond the general guideline that fill factors should reflect the "projection of the actual total usage". According to Staff, the ~~The~~ FCC's only other guidance is:

> The forward looking cost per unit of an element equals the forward looking cost of the element, as defined in §51.05, divided by a reasonable projection of the sum of the total number of units of the element that the incumbent LEC is likely to provide to requesting telecommunications carriers and the total number of units of the element that the incumbent LEC is likely to use in offering its own services, during a reasonable measuring period. 47 C.F.R § 51.511

Staff argues that because~~Because~~ regulators like the Commission, don't ever have comprehensive information about all future network demand, we are required to predict and estimate. Staff states that as ~~As~~ a practical matter, this projection is difficult to construct from existing data. The only hard numbers are SBC's actual network fills. Staff used the actual fills as its base line and then made adjustments to the data from SBC's actual network in order to remove perceived inefficiencies.

Staff witness Dr. Liu divides these potential adjustments into two categories: "ex ante" (before) and "ex post" (after) inefficiencies. According to Dr. Liu, an ~~An~~ ex ante efficient network capacity is a network capacity that is deemed efficient when measured against information available at the time of designing the network. A carrier such as SBC can, at best, engineer an ex ante efficient network capacity. An ex ante efficient

network design may or may not also be an ex post efficient network design. Whether an ex ante network design is ex post efficient depends in large part on the accuracy of demand forecasts made at the time of network design. If the ILECs' forecasts of events were 100% accurate, the ex ante efficient network design (such as the sizing of network) remains efficient after the passage of time (assuming all other aspects of the ILEC's design and installation processes, such as its choices of equipment and technology and its economic analysis of the appropriate amounts of capacity to install now versus in the future, are also efficient). In that instance, the ex ante efficient network design is also considered to be ex post efficient. Further, as Staff witness Green, who has extensive practical experience as an engineering employee of Illinois Bell Telephone Company, an expertise this Commission is fortunate to have the benefit of in evaluating this issue, explained:

> The current embedded network from which the current fills have been determined is a network that has evolved over decades. . . Facilities engineered in the past did not include the consideration of the current or future demands for developing technologies. As a matter of fact, today's demands are causing the telecommunications carriers to redesign some of the existing plant . . . [T]he type of efficient forward-looking network planning expected in a TELRIC study *could not* be planned using the planning tools and capabilities available to the engineers decades ago who designed much of the embedded network. (Staff Ex. 10.0, pp. 8-9; emphasis in original)
>
> [T]echnologies change, forecasts are only best estimates that may not be borne out by actual events, and the accuracy of present worth analyses are affected by interest rates that fluctuate over time. With all three of these inputs changing with time, an embedded network that may have been efficient when designed may no longer be an efficient network today and no longer forward-looking. Therefore, SBCI's [SBC Illinois'] current embedded network of various design factors would invariably have different fill rates from an efficient, forward-looking network totally designed today. (Staff Ex. 10.0, pp. 11-12)
>
> [SBC] has been provisioning cables for decades and many of these older cables are still in use today. There are cables that were previously used to serve factories, businesses, and residential areas that are much smaller or no longer exist and, as a result, produce much less demand upon the network than before. The current embedded fill on these cables is, therefore, disproportionately low. On the other hand, there are also areas where the fill would be disproportionately high, such as in urban renewal areas that could not have been part of the original forecast. Either of these outcomes, of course, would be inconsistent with an efficient, forward-looking network. (*Id*., p. 12)

If, on the other hand, according to Staff, an ILEC has built-in excess capacity beyond reasonable projections of future growth in demand, its network is not ex post

efficient. A carrier subject to Rate-of-Return ("ROR" or "cost-plus") regulation (such as Ameritech Illinois until 1994) may or may not have incentives to overcapitalize and thus may or may not have overbuilt (or oversized) its network. Staff witness Dr. Liu points out that the traditional static model of ROR regulation predicts that the carrier subject to ROR regulation will choose to overcapitalize. Dr. Liu also argues that this~~That~~ prediction, however, crucially depends on the assumption that the allowed rate of return is greater than the cost of capital. In other words, Dr. Liu contends, if the company is not making money by overbuilding, it has no incentive to do so.

Dr. Liu contended that regulatory ~~Regulatory~~ practice and procedure followed by this Commission in Ameritech Illinois' Rate-of-Return era, attempted to determine Ameritech Illinois' actual cost of capital in order to set the allowed rate of return equal to its cost of capital. ~~Staff~~ Dr. Liu posits that in view of the fact that the Commission set the allowed ROR equal to the cost of capital, it is reasonable and appropriate to presume that Ameritech Illinois did not significantly overbuild or oversize its network in the ROR era.

Dr. Liu further asserted that there~~There~~ is simply no evidence in the record that SBC intentionally and systematically designed an inefficient network when it was still under ROR regulation. Dr. Liu argued that notwithstanding ~~Notwithstanding~~ the arguments of the CLECs, there is a lack of evidence to support adjustments to SBC's fills significantly greater than those proposed by Staff on the theory that its network was intentionally overbuilt.

Staff asserts based on Dr. Liu's testimony ~~notes, and we agree,~~ that because SBC's design and engineering practices did not change in any significant way when SBC became subject to alternative regulation (where it is allowed to keep any gains in efficiency), it is reasonable to assume that SBC's past design and engineering practices did not produce excessive or wasteful network capacity.

In contrast to the theoretical views expressed by Dr. Liu, Staff economist Dr. Staranczak, who has considerable practical experience with the Bell system, explained that the fact that much of SBC's existing network was installed under rate of return regulation has negative implications for the efficiency of its network. Dr. Staranczak explained that SBC's low fill factors are likely an inefficient vestige of SBC's days as a monopoly provider of service under rate of return regulation. Dr. Staranczak explained that under rate of return regulation, SBC was regulated based on the size of its rate base; consequently, SBC could earn a rate of return on spare capacity. He stated that as a result, under rate of return regulation, there was not as strong an incentive to be as frugal with spare capacity as there is in unregulated industries. Dr. Staranczak explained that although SBC is now under price-cap regulation, the high levels of spare capacity placed during the era of rate of return regulation remain embedded in SBC's network. He testified that:

> Much of the plant SBCI has currently in place was put in place when it was a rate of return regulated monopolist. This plant therefore reflects practices typical of a rate of return regulated monopolist and does not

> reflect what an efficient forward looking firm would do. I should also note that it takes time to change old habits. So if rate of return engineering guidelines suggested a certain amount of spare capacity then these guidelines may not immediately be changed under price cap regulation. Planners who were comfortable under the old spare capacity guidelines would lobby to retain these guidelines. So even under price caps, SBCI would not necessarily be making the most efficient investment decisions. (Staff Ex. 2.0, pp. 19-20)
>
> SBCI's embedded fills do not reflect fills for an efficient forward-looking firm. SBCI's embedded fills in part reflect fills for a rate of return regulated monopoly. . . . Furthermore, former monopolies are not known for their efficiency. . . .Use of embedded fills reflects historical behavior and not what is possible from a forward-looking efficient carrier. (*Id.*, pp. 20-21)

The record reflects that only about one-third of SBC's existing network has been installed since SBC moved from rate of return regulation to price cap regulation. Nor is there any evidence that SBC's network design and installation practices in fact changed when SBC moved away from rate of return regulation. In fact, as noted above, the record suggests the opposite.

Staff states that a ~~A~~ carrier can only design or supplement its network based on information available at the time when the decision to design or enlarge the network is being made. Because a carrier cannot predict the future with 100% accuracy, after the fact, or ex post, inefficiency occurs if forecasts or assumptions upon which expenditures are made prove to be incorrect. Therefore, some level of ex post inefficiency is generally unavoidable.

Staff argues that SBC's network was built and expanded at different points in time, using technology of different eras. SBC, like any other carrier, operates in an uncertain business environment. Demographics change over time. SBC (and Ameritech before it) does not possess complete foreknowledge of the future needs of its products. When sizing its network plant, SBC has to make forecasts of future growth in demand. Some forecasted growth in future demand underestimates actual growth in demand. Other forecasted growth overestimates the actual growth in future demand. All of these realities help to demonstrate that SBC's existing network is not an efficient, forward-looking network as required by the FCC's TELRIC methodology and that its current actual fill factors are not the fill factors that would result in an efficient, forward-looking network.

While SBC may be able to remedy ex post inefficiency resulting from forecasted future demand being "too low" by supplementing its network plant, SBC is generally not be able to remedy the ex post inefficiency resulting from forecasted future demand being "too high" due to the sunk nature of investment in network plant. Therefore, ~~Staff~~ Dr. Liu contends it is reasonable to conclude that a portion of SBC's actual network capacity is the accumulative result of overbuilding over time, which is a result of incomplete information, imperfect forecasts and changed circumstances.

Staff stated that FCC's TELRIC principle only allows a carrier to recover the cost of its forward-looking network. The unnecessary or inefficient network capacity built into the network due to imperfect forecasts or changed circumstances— should not be counted as part of SBC's forward-looking network. UNE prices set according to the TELRIC principle do not allow SBC to recover the cost of the existing inefficient network capacity. Incorporating inefficient network capacity into SBC's forward looking costs would be tantamount to allowing recovery of its embedded costs – a result explicitly disallowed under TELRIC. Therefore, Staff argues that fill factor adjustments need to be to made to Actual Fills to remedy this measure of inefficiency in network capacity.

To determine exactly the amount of ex post inefficient capacity would require the examination of every segment of SBC's network for each network component (such as feeder plant, distribution plant, etc.) and would also require the comparing old forecasts and assumptions regarding future demand against the realizations of these forecasts. Staff argues that because of the complexity, size and duration of SBC's network, such an examination is beyond the scope of the regulatory process. In an attempt to determine a reasonable estimate of the existing level of inefficiency in the SBC network, Staff made adjustments based on the following general principles:

First, it notes that the extent of ex post inefficient capacity is critically influenced by the extent to which the investment in this particular network component is a sunk cost. Sunk costs are expenditures for items that have no utility other than their original purpose. Some network components have a higher ratio of sunk costs than others. Thus the fill factor adjustments made to different network components should vary depending on the level of sunk costs for each. Investment in circuit equipment involves lower levels of sunk costs than investment in outside plant such as feeder technology and distribution equipment. Accordingly, Staff says, the adjustments made to distribution or feeder plant should be greater than adjustments made to circuit equipment.

Second, Staff states that the amount of inefficient capacity is also critically influenced by whether the network capacity is engineered to accommodate short term, long term, or ultimate demand. (Ultimate demand is the total demand ever expected from a service area.) Accordingly, adjustments made to feeder plant, which is sized to accommodate growth in demand in the next few years, would be smaller than adjustments made to distribution plant, which is sized based on ultimate demand.

Staff argues~~, and we agree~~ that 15% adjustments to the total capacity of SBC distribution plant, and 7.5% capacity adjustments to SBC's feeder plant and digital loop carrier ("DLC") capacity seem to be reasonable adjustments. Staff notes that a 15% adjustment to SBC's total actual distribution plant capacity assumes that 15% of distribution plant capacity is excessive and unnecessary and not part of a forward-looking network. Similarly, Staff notes that a 7.5% adjustment to feeder plant capacity assumes that 7.5% of the total feeder plant capacity has been built in error and should not be part of a forward-looking network.

The Commission concludes that it cannot adopt Dr. Liu's proposal because it is insufficiently supported. As we have already determined, and as Staff witnesses agree, SBC's current actual fill factors are not representative of a new, efficient, forward-looking network using the most advanced telecommunications technology available. Nor do SBC's actual fill factors represent an appropriate step in the calculation of per-unit costs in accordance with the FCC's TELRIC methodology, as discussed earlier in this Order. Dr. Liu's proposed adjusted actual fill factor values are simply the result of arbitrary adjustments to SBC's network capacity, and no empirical support or analysis has been provided for these adjustments. Simply adjusting SBC's actual network capacity for the various components downward by arbitrary amounts does not turn non-TELRIC-compliant data into TELRIC-compliant values.

AG and CUB Proposal

CUB argues that SBC's fill factors require current ratepayers to absorb investment costs from which only future ratepayers will benefit. ~~We believe, consistent with the discussion above, that~~ While SBC and Staff have ~~shown~~ argued that through the existence of large fixed and sunk costs, SBC actually gains economies of scale by deploying capacity at less frequent intervals~~. These~~; that these economies of scale result in lower per unit costs over all periods, including today~~. Consumers~~; that consumers today pay less than they would have paid had SBC employed an investment strategy that would deploy only the capacity needed for the immediate demand~~. By~~ ; and that by using a long-term investment strategy, SBC is able to spread the costs of upgrading the network over a large number of current and future customers, resulting in lower per-unit costs for everyone~~.~~, these assertions have not been empirically substantiated in this docket, nor has SBC demonstrated that its decisions to install greater excess capacity at the outset rather than to reinforce the system at future dates as additional demand arises have in fact been cost-effective and least-cost, as opposed to driven by incentives to maximize rate base. Further, SBC has not demonstrated that its long-standing design criteria of installing 2.25 lines per living unit remain efficient and cost-effective in light of technological and demographic changes, while serious questions about the efficiency and cost-effectiveness of these design practices have been raised in this record. Thus, as AG and CUB have pointed out, there are serious questions raised in this record as to whether SBC's design and installation practices saddle both wholesale and retail customers with unnecessary costs of excess capacity. Most importantly, as discussed earlier in this Order, the FCC's TELRIC methodology requires the assumption that all costs are variable and avoidable in the design of the efficient, forward-looking network.

AG, joined by CUB, urge the adoption of the fill factors for non-rural areas included in the FCC's Synthesis Model for determining Universal Service support levels. We find that this model cannot be used to determine FCC compliant TELRIC costs because it was constructed for a different purpose-- to establish high cost support levels. Moreover, the AG used the same gross factor to adjust each input fill downwards. The fill factors in the HCPM model result from applying input fill factors to route-by-route, customer-specific location data for the entire study network. Therefore, the AG's proposal is not consistent with the FCC's model.

CLEC Proposals

CLECs have proffered three approaches. Their first suggestion is that we adopt the "usable capacity" approach rejected by this Commission in the TELRIC 1 proceeding. A usable capacity fill is defined by Illinois Cost of Service Rules as the maximum physical capacity of the equipment or resource less any capacity required for maintenance, testing, or administrative purposes. 83 Ill. Admin. Code §791.20(n). The capacity that can be used to provide telecommunications services to end-users -- i.e., the capacity that is not set aside for maintenance, testing or administrative purposes – is the usable capacity as defined by the Illinois Cost of Service Rule. When measured as a percentage of the network capacity, this usable capacity is called the usable capacity fill.

~~In order to equate this approach with the FCC requirement of including "projections of the actual total usage" requirement we would have to ignore significant fixed and sunk costs associated with network deployment, the variability of future demand and quality of service requirements that demand additional spare capacity on demand. A usable-capacity-fill based UNE rate would not allow a carrier to recover its forward-looking network investment costs. Therefore, we reject Joint CLEC's proposal that we adopt usable capacity fill as the UNE benchmark.~~

Note: The following five underscored paragraphs provide for the adoption of usable capacity fill factors, which is Joint CLECs' first recommendation.

We conclude that usable capacity fill factors are the fill factors that best satisfy the requirements of the FCC's TELRIC methodology, and that they should be adopted for purposes of setting SBC's UNE rates in this proceeding. Usable capacity fill factors represent the optimal usage capable of being sustained from an engineering perspective. The process prescribed by the FCC for calculating TELRIC-based rates requires that the ILEC first design and construct (conceptually) a forward-looking, least cost network that relies on the most efficient technology and configuration available and that is sized consistent with a reasonable projection of its total demand. After having calculated the total costs for a network designed and sized accordingly, the ILEC (and the state commission) is then required to develop "per-unit costs" by dividing the total network costs by the projection of total demand used originally to size the network. Because the ILEC's redesigned forward-looking network will include only the latest technology, which is capable of being deployed very modularly, and because the ILEC will size the network based on a known quantity of demand, *i.e.*, the projection of its total demand, the only constraints that keep the ILEC from designing a hypothetical forward-looking network with nearly full utilization of capacity are the maintenance, testing and administration requirements that necessitate that some capacity be set aside for these purposes. Thus, "usable capacity" fill factors represent the most reasonable interpretation of the FCC's fill factor requirements for TELRIC studies.

The Local Competition Order specifies that "the per-unit costs associated with a particular element must be derived by dividing the total costs associated with the element by a reasonable projection of the actual total usage of the element," while

correspondingly requiring that the reconstructed local network must employ the most efficient technology for "reasonably foreseeable capacity requirements". The "actual total usage" referred to in the Local Competition Order is the demand that must be considered in developing per-unit costs. Thus, developing a fill factor in accordance with the FCC's directives in the Local Competition Order requires a calculation of the demand divided by the most efficient amount of network capacity required to support it. This is what usable capacity fill factors represent, *i.e.*, the most efficient (complete) utilization of the network, with the network's capacity fully utilized to serve demand except for the capacity needed to be kept aside (in accordance with sound engineering and economic guidelines) for maintenance, testing and administrative purposes. The usable capacity fill factors represent an efficient network that is sized to meet demand in the most efficient manner. Further, as noted earlier in this order, the Local Competition Order requires the use of "reasonably foreseeable capacity requirements." This necessitates the consideration of at most anticipated short-term growth, but not long-term growth or "ultimate" demand. The FCC has made it clear that for purposes of determining fill factors, it is reasonably foreseeable short-term demand that must be considered, not "speculative" long-term or "ultimate" demand. The "usable capacity" fill factors satisfy these requirements.

In addition to the fact that usable capacity fill factors are compliant with TELRIC requirements, there is another important reason for using SBC's usable capacity fill factors to calculate its wholesale UNE rates, namely, to achieve consistency between the fill factors used in these wholesale costing/pricing studies and the fill factors used in SBC's LRSIC retail costing/pricing studies. When calculating costs for purposes of its retail cost studies, including LRSIC studies required by Code Part 791, SBC uses usable capacity fill factors. There is no reason from an engineering or economic viewpoint that the same fill factors should not be used in both wholesale and retail costing/pricing studies. SBC uses the same network, technicians and OSS platforms and methods to provide both its retail and its UNE products and services. The costs incurred by SBC to provision a given network element (whether ultimately unbundled to be provided at wholesale or provided as a component of a retail service) are the same. Moreover, functionally, SBC does not engineer its network with different capacity assumptions for wholesale and retail customers. Therefore, there is no reason to assume different amounts of spare or unused capacity in the [same] network in cost studies that are conducted for retail and wholesale purposes.

Additionally, a clear objective of the FCC's TELRIC methodology is the ability of CLECs to share in the economies of scale and scope that the incumbent itself enjoys in providing its retail services – so that both the ILEC and its competitors can compete on a level playing field. This objective is thwarted if SBC is allowed to develop its UNE prices using markedly different inputs and assumptions than it uses to develop its prices for retail services. Whether SBC provides a loop as part of a retail network access line, or provides the same or a similar loop as a UNE loop, the same facilities are used, and the costs associated with providing both the retail and the wholesale product should be identical. Using fill factor values to set SBC's UNE prices that are lower than the usable capacity fill factors SBC uses in its retail LRSIC studies will enable SBC to set low price floors for its retail services (and thereby to set lower prices for products and services for

which it faces competition), while allowing SBC to impose much higher costs and prices for the same network components on its UNE-purchasing competitors. Using the same fill factors for both wholesale and retail studies will avoid this outcome. The Commission notes that in our recent Part 791 rulemaking, Ameritech itself advocated consistency between the assumptions used in TELRIC and LRSIC studies. Because both the LRSIC and the TELRIC methodologies are studying the same network, which is used to provide both retail and wholesale products, there is no logical basis upon which to suggest that different fill factors should be used in one type of study versus another.

Thus, both for reasons of TELRIC compliance and to achieve consistency between SBC's wholesale and retail costing and pricing studies, the Commission adopts SBC's "usable capacity" fill factors for purposes of calculating SBC's UNE loop rates. We further note that for the most impactful network components, the usable fill factors are only 5% to 6% above the fill factor values adopted by the Commission in the TELRIC I Order. As a result, adoption of the usable fill factors should have only a modest impact on the currently-effective UNE loop prices and would be consistent with the objective of rate stability which is critical to continued development of a competitive local exchange market.

CLECs' next alternative is the target fill approach adopted by this Commission in TELRIC 1. The target fill level is defined as the particular utilization rate above which it is more cost effective to add plant or capacity rather than allow increased utilization of the existing plant.

Note: The following two underscored paragraphs provide for the adoption of target capacity fill factors, which is Joint CLECs' second recommendation.

In the TELRIC I Proceeding, we adopted this approach, which was proposed by Ameritech, finding that TELRIC-based prices are reasonably based on the optimal usage level above which it is more cost effective to add plant and capacity rather than increase the utilization of existing plant. We concluded after extensive analysis that target fill factors best satisfied the FCC's forward-looking cost methodology. (TELRIC I Order, p. 34) We noted in that order that Ameritech had constructed the target fill factors both to accommodate the additional demands of unbundling and customer churn resulting from the 1996 amendments to the Communications Act and to satisfy the FCC's definition of fill factors in the Local Competition Order, and that it was Ameritech's position that the target fill factors realistically reflect efficient network use and are appropriate for the development of forward-looking economic costs. We note that in this case, a number of witnesses have advocated continued use of the target fill factors that we adopted in the TELRIC I Proceeding and that are embodied in SBC's currently-effective UNE rates, including Staff witness Green, the Commission's Chief Telecommunications Engineer, in his direct testimony.

In this case, both SBC and various other parties, including the CLECs, have proposed that we adopt different approaches to determining fill factors than the target fill factors. In accordance with the FCC's TELRIC rules, SBC has the burden of proof in

this proceeding to demonstrate that the costs on which its proposed UNE rates are based are compliant with the TELRIC methodology. SBC has not met that burden with respect to its proposals concerning fill factors. Nor, for reasons discussed elsewhere in this section of our Order, have any other parties. Moreover, no party has recommended that the values of the target fill factors themselves need to be revised from those adopted in the TELRIC I Proceeding. Therefore, we find that the target fill factors adopted in the TELRIC I Proceeding should continue to be used in calculating SBC's UNE loop rates. In addition to being in compliance with TELRIC principles, continued use of the target fill factors will promote rate stability, which this Commission found in the TELRIC I Order is important to continued development of the competitive market.

~~As we noted in the TELRIC 1 decision, target fills are not synonymous with the fill level achieved in an efficient, forward looking network. Loop spare capacity (like spare capacity for other network elements) exists in a carrier's network because the carrier, for purposes of accommodating future demand growth, normally places loop facilities in excess of what the carrier immediately needs to serve its customers. Second, the primary costs of loop deployment are the fixed and sunk costs associated with physically laying cable – cost of Right-Of-Way (ROW), digging up the streets and trenching cable, etc.~~

~~For instance, the total costs of cable placement vary little with the cable size. As an example, the record shows that the per-foot incremental cost of fiber placement is one dollar ($1.00) when increasing the fiber cable size from 72 to 144 fiber strands. However the cost of retrenching and replacing cable is far higher. Carriers thus normally place more copper and fiber facilities than they immediately need to avoid the future high duplicate costs to retrench the same location should demand for additional loop facilities occur.~~

~~Within limits, the higher the fixed and sunk costs, the less frequently would the carrier wish to add capacity. This goal is can be accomplished by building or engineering more capacity at the time of deployment (or plant reinforcement) – assuming all else equal. Target fill numbers do not take this requirement into account. We reject this alternative.~~

The CLECs last alternative is similar in concept to the approach taken by Commission Staff. Like Staff, they adjust SBC's actual fill factors upward to account for inefficiencies. Staff advocates small fixed percentage adjustments, for each network component. Staff's approach assumes a uniform, modest level of inefficiency in SBC's network. CLECs point out that Staff witness, Dr. Liu admitted that her proposed adjustments are not based on any data in the record and have no theoretical underpinning. Nor has Staff's theory has not been accepted by any other jurisdiction. CLECs argue that these percentages are merely guesses without any theoretical or evidentiary basis and that the percentages bear no relationship to Dr. Liu's earlier testimony.

Note: The following four revised paragraphs provide for adoption of Joint CLECs' more accurate implementation of Dr. Liu's "adjusted actual fill" approach, which is Joint CLECs' third recommendation.

CLECs, on the other hand, employ a "best practices" approach. Joint CLECs first reviewed SBC's 2002 data on defective pairs by wire center. They noted that the percentage of defective pairs in SBC's network has been increasing (both in absolute numbers and as a percentage of total capacity), to a level that is not consistent with a new, efficient, forward-looking network, and that some individual wire centers have extremely high percentages of defective pairs while in other wire centers defective pairs are 1% or less of total capacity. Accordingly, they re-set the defective pair percentage in each wire center to the lesser of 1% or the actual defective pair percentage for that wire center. Joint CLECs then ~~They~~ used SBC 2002 data (adjusted with respect to defective pairs as just described) to find wire centers with the 20 highest fill factor levels for each network component, as a proxy for the most efficient fill factor level in the network. CLECS reviewed subsequent data to identify if capacity was added to any of the wire centers, since capacity addition would indicate that the observed fill factor was not sustainable. If subsequent capacity additions were noted at a wire center, it was removed from the list of 20 most efficient wire centers for that network component and replaced with the wire center with the next highest fill factor. ~~confirm consistent performance~~. In addition, Joint CLECs compared the 2002 fill factor data to 1998 data for the distribution components (which were the only components for which SBC provided data). Joint CLECs made this comparison for two purposes: (1) because SBC's fiber overlay initiative, which has decreased fill factors, commenced in 1999; and (2) to identify potential impacts of the business cycle on network utilization. They concluded that the 1998 fill factors were higher than the 2002 fill factors, which they attributed to the factors just mentioned, and therefore adjusted the 2002 distribution fill factor data based on the ratio between the 1998 fill factors and the 2002 fill factors. The wire centers selected as a result of the analysis just described are from urban as well as rural areas. They argue that the Commission should adopt a weighted average fill factor for each 20 "best" component group. CLECs argue that their third approach is a more accurate version of what Dr. Liu has presented. The proposed fill factors resulting from this analysis are ~~far~~ larger than those recommended by Staff, reflecting the wide variation in fill factors across SBC's 279 wire centers~~.~~, but also represent a significant decrease from the target fill factors adopted in the TELRIC I Proceeding for most components. In fact, for most network components, the fill factors developed by Joint CLECs through this analysis are closer to Staff's adjusted actual fill factors than they are to the target fill factors.

This "best practices" adjustment ~~in~~correctly equates efficiency with utilization (or fill) rate. It assumes that the higher an observed utilization rate, the more efficient that wire center must be. Not only are we persuaded ~~We are not convinced~~ by this logic~~.~~, but we find the analysis conducted by Joint CLECs to be a more logical, rational and empirically-premised procedure for adjusting SBC's actual fill factor data to remove the impacts of inefficiencies than are the arbitrary and empirically-unfounded adjustments made by Staff witness Dr. Liu. Given our decision to use SBC's actual fill factor data as a starting point, the Joint CLECs' analysis is clearly sounder and more defensible than

Dr. Liu's arbitrary approach. While a high utilization rate at a particular wire center may not be conclusive proof as to whether that wire center has been engineered and designed efficiently, the frontier approach is a valid methodology which provides adequate empirical support for Joint CLECs' adjustments. ~~As Staff correctly points out, a high utilization rate at a particular wire center does not in any way indicate whether this particular wire center has been engineered and designed efficiently. Nor does it indicate whether SBC could serve its customers in the long term at lower unit costs.~~

~~As~~ SBC ~~notes in its~~ offered a number of critique~~s~~ of CLECs' analysis in its briefs, for example its argument that many of the wire centers with the highest fill rates are in rural areas or mature residential communities, both low growth scenarios~~. Efficient~~ and its argument that engineering design requires more capacity to accommodate future demand growth in higher growth wire centers than in lower growth wire centers~~. All~~ and that therefore, all else equal, a fill rate in a higher growth wire center would be lower than the fill rate in a lower growth wire center at any given point in time~~. Thus,~~ so that, according to SBC, "efficient practice" in one wire center may be an "inefficient practice" in another wire center. Having reviewed the parties' briefs, the testimony setting forth Joint CLECs' analysis and the relevant transcript pages, we find that SBC's criticisms were either unfounded or were effectively responded to by Joint CLECs, and that SBC's criticisms do not persuade us not to adopt Joint CLECs' more accurate and sounder implementation of Dr. Liu's adjusted actual fill factor approach for purposes of this proceeding.

SBC argues that~~The~~ the installed total capacity at a wire center is determined by various factors, including but not limited to, regulatory requirements (such as carrier of last resort and mandatory quality of service requirements), fixed loop deployment costs, demand, demand growth, cable breakage, and so on. SBC also states that fill ~~Fill~~ rates at a particular wire center reflect all of these factors. Therefore, SBC argues, the observed variation in fill rate in this proceeding does not necessarily equate to "inefficiency" at any particular SBC wire center. SBC~~'s~~ states that its wire centers have vastly different characteristics~~. They~~ , for example, they differ in topography, demand, demand growth, customer composition, fixed loop deployment costs, and so on. SBC contends that these~~These~~ variations in characteristics would necessarily lead to variation in fill rates at the wire centers. In other words, according to SBC, efficient network design necessarily results in variation in fill rates across SBC wire centers because of the vastly different underlying characteristics of these wire centers. However, SBC notes that under CLECs' proposal all but 20 (259 out of 279) of SBC's wire centers fail this "efficiency" standard. As Staff notes, SBC could only meet this criterion if all of its wire centers were identical in all aspects but location. ~~We therefore reject the CLECs' "best practices" approach.~~ None of the foregoing arguments persuade us that Joint CLECs' analysis should not be adopted for purposes of this proceeding. These arguments do no more than explain why SBC's existing fill factors are what they are. Here we are tasked with determining what the fill factors should be in an efficient, forward-looking network. Regardless of the historical factors which pushed SBC to achieve higher utilization in some wire centers, these examples prove that these fill factors can be, and have been achieved in some instances. We find that similar fill factors could, and would, also be those that would be achieved in an efficient, forward-

looking network. Further, the parties are reminded that this is not a "prudence" case and the prudence of SBC's previous decisions that have resulted in its existing network and existing network utilization rates (fill factors) is not at issue in this case, nor is it relevant to developing TELRIC-compliant rates in accordance with the FCC's prescribed methodology. More importantly, SBC (and Staff) forget that SBC has not demonstrated that its current actual fill factors in its existing network are representative of the network utilization to be expected in a new, efficient, forward-looking network nor that adoption of the current actual fill factors would be TELRIC-compliant. To the contrary, the evidence, including Staff testimony, establishes the opposite. Accordingly, the Commission could quite appropriately decide for purposes of this proceeding to continue to use the target fill factors that we adopted in the TELRIC I Proceeding. Nonetheless, in deference to concerns expressed by SBC, we have decided to adopt a fill factor approach that uses SBC's current actual network capacity and network utilization as a starting point. Given that decision, we were presented with two approaches, namely, Dr. Liu's arbitrary and empirically-unsupported set of adjustments, and Joint CLECs' thoughtful analysis. Although it can be criticized, Joint CLECs' analysis is by far the sounder, more defensible and more empirically-based analysis of the two choices presented to us in this docket. Accordingly, we are adopting it for purposes of this proceeding.

Note: The following four paragraphs provide for the adoption of Staff's adjusted actual fill factor approach, with adjustments to the specific values proposed by Dr. Liu. This would be Joint CLECs' fourth recommendation.

For the reasons stated earlier, for purposes of this proceeding we adopt Dr. Liu's basic approach of making adjustments to SBC's actual network capacity and utilization data to develop a set of fill factors to be used in setting SBC's UNE rates in this docket. However, we find Dr. Liu's specific proposal to adjust SBC's actual capacity by 7.5% with respect to feeder and DLC components and by 15% with respect to distribution components to be insufficient. Joint CLECs presented an alternative set of adjusted actual fill factors based on adjusting SBC's actual capacity by 15% with respect to feeder and DLC components and by 30% with respect to distribution components. These adjustments are as well supported as are Dr. Liu's proposed adjustments, but the Joint CLECs' adjustments have the advantage that the resultant fill factors would not be as drastic a departure from the fill factors embodied in SBC's currently-effective UNE rates as would Dr. Liu's proposed fill factors. Therefore, Joint CLECs' adjustments are superior in terms of rate stability, which as we have often emphasized, is important to the development of the competitive market. Further, Joint CLECs' alternative adjustments result in distribution fill factors somewhat in excess of 50% and therefore by adopting them we avoid placing ourselves in the embarrassing position of adopting fill factors at the level we recently told the FCC in our comments on the TELRIC NPRM would represent a network that was not designed for efficiency, as would be the case if we were to adopt Dr. Liu's proposed distribution fill factors. In addition, these adjusted actual fill factors should be further modified based on the following two adjustments.

Note: the following three revised paragraphs should be used whether the Commission adopts Dr. Liu's adjusted actual fill factor values or the alternative values discussed in the immediately preceding paragraph.

Use of 1998 Distribution Data

We agree with the CLECs and DoD/FEA that short-term fluctuations should be removed from SBC's actual fill factor data. Specifically, SBC's DSL initiative called Project Pronto and its other fiber/broadband overlay initiatives (collectively, "Project Pronto") temporarily lowered SBC's actual fill rates below levels that would have been observed otherwise. The implementation of Project Pronto began in 1999, when SBC added significant amounts of fiber and DLC equipment to its network. Although installing this infrastructure was reasonable and necessary, its deployment is a long-term objective that has reduced utilization rates in the short term. Therefore, we find it appropriate to use 1998 fill factor data for distribution fill factors. ~~Because~~ While similar 1998 data was not available for the other network elements, it is nonetheless appropriate to make a similar adjustment to the 2002 fill factor data for the other network components ~~the use of 1998 data is not mandated for the other network elements~~. In fact, Joint CLECs point out, and we agree, that SBC's fiber/broadband overlay has also had a significant impact in terms of lowering fill factors for feeder elements, as it has had for distribution elements. Accordingly, we direct that the 2002 fill factors for network elements other than distribution that are used as the starting point in the adjusted actual fill analysis should first be adjusted upward using the ratio of the 1998 to 2002 copper distribution fill factors, before applying the additional adjustments to network capacity described above.

Adjustment for defective pairs

A subpart of CLECs' "best practices" analysis concerns defective pairs. Some wire centers have a higher percentage of defective pairs than others. CLECs argue that it is inefficient per se to have ~~a~~ the high percentage of defective pairs that currently exists in SBC's network, which far exceeds the percentage of defective pairs that one would expect or tolerate in a new, efficient, forward-looking network ~~in the outside plant~~ (similar to their 20 "best" wire center proposal). CLECs propose that the allowable defective pair percentage should be set at 1% and that usable capacity should be recalculated using that percentage as a benchmark. Similar to the wire center analysis, this argument presumes a higher percentage of bad pairs is necessarily a measure of higher inefficiency. ~~This is incorrect.~~ While we have not adopted Joint CLECs' proposed more accurate implementation of Dr. Liu's adjusted actual fill factor approach, we agree with Joint CLECs' point that the actual levels of defective pairs in SBC's existing network do not represent what would be expected in a new, efficient, forward-looking network, and cannot be used for purposes of establishing TELRIC-compliant rates. This is not to say that we are requiring ~~Requiring~~ the repair of all defective pairs in excess of 1% in SBC's network, because this would be inefficient in the absence of need. However, while defective pairs can in theory be repaired and converted back into available capacity, the record shows that for a variety of reasons, a significant portion of defective pairs will never be repaired and made available as usable capacity.

Therefore, the full complement of defective pairs in SBC's network should not be counted in "usable capacity" for TELRIC purposes. More importantly, while the defective pairs in SBC's existing network undoubtedly include pairs that have become defective due to age, accidents, deterioration, weather, moisture infiltration, gnawing by weasels and rodents and similar factors over time, the only defective pairs that one would expect in a new, efficient network would be due to manufacturing defects. Accordingly, for purposes of calculating the adjusted actual fill factors to be used in this proceeding, ~~Thus,~~ we accept ~~reject~~ CLECs' proposed adjustment regarding the percentage of defective pairs and direct that the percentage of defective pairs included in available capacity be set at 1% for purposes of these calculations.[37]

The foregoing adjustment, of course, also encompasses~~We come to a different conclusion concerning~~ universal bad pairs ("UBPs"). In its simplest form, SBC calculates the actual fill factor by dividing working pairs (or capacity) by available pairs (or capacity). There was ~~is~~ a conflict in the evidence concerning how UBPs are treated in that calculation. SBC includes UBPs in the available capacity. The question is whether or not SBC includes UBPs in the working capacity. As noted by CLECs witness Starkey, Attachment 2 to SBC's Response to AT&T Data Request MS-138 states that "a UBP will be counted the same as a working pair." However, during cross-examination, SBC witness White stated that "UBPs would not be counted in working pairs." In their Brief on Exceptions, Joint CLECs noted that they accept Mr. White's explanation which indicates that SBC only includes UBPs in the denominator of the fill factor calculation. In any event ~~Because of this contradiction~~, we find that UBPs should be removed from the calculation of fill factors. ~~That is, UBPs should be removed from the numerator as well as the denominator of the calculation.~~

Note: the conclusion for each alternative is adequately presented in the foregoing text with respect to each alternative, and therefore the paragraph below is not needed.

~~Summing up, we find that SBC's actual fills are not forward looking because they fail to account for existing network inefficiencies. We reject CLECs usable fill and target fill proposals because they are not TELRIC compliant. We reject CLECs best practices proposal because it is logically flawed and presumes a significantly higher level of inefficiency in SBC's network than is demonstrated by the evidence. We reject the AG/CUB proposal that we adopt fill factors for non-rural areas included in the FCC's Synthesis Model for determining Universal Service support levels. This leaves us with Staff's suggested percentage adjustments to SBC's actual fills. We are troubled by the absence of specific calculations based upon the evidence supporting the "forward looking actual fill factor" adjustments proposed by Staff. However, we find that Staff's~~

[37]While Joint CLECs recommend that the percentage of defective pairs in available capacity for purposes of calculating adjusted actual fill factors be set at 1%, we note that, as pointed out earlier in subsection (i) of our Exceptions on Fill Factors, setting the defective pair percentage at 3% or 4% would still represent a material reduction from the excessive level of defective pairs present in SBC's existing network.

~~proposed fills derived from percentage adjustments to SBC's actual fills, which should by further modified to reflect 1998 rather than 2002 distribution data and the removal of UBPs from the calculation are reasonable and acceptable to the Commission.~~

3. Cost of Capital

Exceptions – Overview

The Proposed Order appropriately rejects SBC's proposed cost of capital components and overall cost of capital. The Proposed Order adopts all of Staff's proposed values for the components of the cost of capital except for the costs of long-term debt and short-term debt, for which the Proposed Order adopts Joint CLECs' recommended values. (Joint CLECs' recommended values for long-term debt and short-term debt were higher than Staff's recommended values by 61 basis points and 137 basis points, respectively.) The overall cost of capital adopted by the Proposed Order is 8.94%, which is 140 basis points higher than Joint CLECs' recommended overall cost of capital of 7.54%.

A principal area of difference between Joint CLECs' recommendations and Staff's recommendations was in the cost of equity: Joint CLECs recommended a 9.46% cost of common equity whereas Staff recommended (and the Proposed Order adopts) a cost of common equity of 12.44%. However, the difference between these cost of equity recommendations is mitigated by the fact that Joint CLECs recommended a 66.12% common equity ratio in the capital structure whereas Staff recommended (and the Proposed Order adopts) a 51.0% common equity ratio. As a result, Joint CLECs' recommended weighted cost of equity (9.46% X 66.12%) was 6.25% whereas Staff's recommended weighted cost of equity (and the Proposed Order's outcome) is 6.34% (12.44% X 51.0%), only 9 basis points higher than Joint CLECs' recommendation. Accordingly, while Joint CLECs believe that the 12.44% cost of common equity adopted

by the Proposed Order is too high, and are taking exception to it for the record, Joint CLECs obviously do not strenuously object to the Proposed Order's 6.34% weighted cost of equity. However, Joint CLECs stress that the parties' cost of equity and common equity ratio recommendations go hand-in-hand. Therefore, if the Commission were to decide to adopt Joint CLECs' cost of equity recommendation it should also adopt Joint CLECs' proposed common equity ratio, and vice versa.

Given the similarity between Joint CLECs' proposed weighted cost of equity and the weighted cost of equity resulting from the Proposed Order's determinations, the biggest cause by far of the 140 basis point difference between Joint CLECs' overall cost of capital proposal and the Proposed Order's overall cost of capital is the respective portions of long-term debt and short-term debt in the capital structure. Joint CLECs proposed 11.53% long-term debt and 22.35% short-term debt in the capital structure, whereas the Proposed Order concludes that the capital structure should include only 4.78% short-term debt and 44.22% long-term debt, which is higher cost. Joint CLECs submit that inclusion of only 4.78% short-term debt in the forward-looking capital structure is inconsistent with SBC's actual capital structure and use of short-term debt over an extended period, as well as with current and foreseeable capital market conditions. Assuming that the Commission adopts the 51.0% common equity ratio recommended by Staff and the Proposed Order, the Commission can set the short-term debt ratio at 22.35% (the value recommended by Joint CLECs), leaving 26.65% of the capitalization to be financed by long-term debt. Based on the cost rates adopted in the Proposed Order, this revision would change the overall cost of capital to 8.47%.

c) Cost of Common Equity

(4) Commission Analysis and Conclusion

Joint CLEC witness Terry Murray recommended a 9.46% cost of common equity, based on the results of discounted cash flow ("DCF") and risk premium (capital asset pricing model, or CAPM) studies. In contrast, Staff witness Michael McNally recommended, and the Proposed Order adopts, a cost of common equity of 12.44%. Joint CLECs submit that the 12.44% cost of common equity is excessive in light of current and recent capital market conditions reflected in the record, and results from specific flaws in Mr. McNally's analysis.

Joint CLECs' proposed cost of equity was the result of a sound and reasonable analysis performed by Ms. Murray. She selected a group of comparable companies (proxy group) with characteristics as similar as possible to the wholesale business of providing network elements, which is the line of business for which SBC's forward-looking cost of capital is being determined. Because the relevant business risk is that of providing UNEs at wholesale, Ms. Murray considered for inclusion in the proxy group all companies with publicly-traded stock for which any part of the company has a legal obligation to provide UNEs pursuant to the Telecommunications Act. (AT&T/MCI Jt. Ex. 2, p. 18) However, she eliminated as not comparable companies that do not qualify as a large capitalization stock like SBC. (*Id*., p. 19) The resulting proxy group she selected consists of Verizon, Bell South and SBC itself.[38] (*Id*.)

Ms. Murray estimated the forward-looking cost of equity capital using the DCF and CAPM methodologies. She used a three-stage DCF growth model which, as

[38]Another large telecommunications holding company, Qwest, was not included in the proxy group for several reasons including recently revealed accounting issues and the fact that Qwest pays no dividends and thus cannot be used in a standard DCF analysis. (AT&T/MCI, p. 19)

recognized by the respected authority Ibbotson and Associates, "fits with life cycle theories in regards to company growth . . . Typically, the potential for extraordinary growth in the near term eases over time and eventually growth slows to a more stable level." (*Id*., pp. 22-23, citing Ibbotson Associates, *SBBI: Valuation Edition, 2003 Yearbook*, p. 62). In Ms. Murray's three-stage model, the first stage is the next five years, in which she based the expected growth in the proxy companies' earnings on the mean of analysts' forecasts over the five-year period.[39] (*Id.*, p. 23) The second stage is the succeeding 10 years (*i.e*., the period ending 15 years in the future), during which each company's growth rate is assumed to gradually converge toward the future rate of overall economic growth.[40] (*Id.*) In the third stage (year 16 forward) each company is assumed to grow at the same rate as the overall economy, which is the only sustainable growth rate for a company in the long run. (*Id*., p. 24) Ms. Murray's DCF analysis for the comparable companies, using their current dividend yields and the three-stage growth rates, produced an average cost of equity of 9.72%. (See AT&T/MCI Jt. Ex. 2, pp. 24-25)

In performing her CAPM analysis, Ms. Murray utilized forecasted betas from two respected sources, *Value Line* and BARRA (both of which show that returns for stocks of telecommunications firms move roughly in tandem with the market as a whole). (*Id*.,

[39]Ms. Murray assumed that a company's dividends will grow at the same rate as its earnings over time; this permits the use of analysts' forecasts of earnings growth rates, which are commonly available, in estimating growth rates in the DCF model. She used analysts' consensus earnings forecasts from *Thomson Financial Network* (formerly I/B/E/S) as the first-stage growth rates for the comparable companies. (AT&T/MCI Jt. Ex. 2, p. 24)

[40]The future rate of overall economic growth for the second stage of the DCF analysis was developed using forecasts published in the Federal Reserve Bank of Philadelphia's *Survey of Professional Forecasters*. (AT&T/MCI Jt. Ex. 2, p. 23)

p. 27) She also employed the well-known procedure of unlevering, averaging and then relevering the comparable companies' betas to account for the fact that differences in the companies' tax rates and capital structure leverage create artificial differences in their observed betas. The resulting average beta for the comparable companies was 0.917, indicating that the stock of the proxy group is slightly less sensitive to the market than the average stock. (*Id*., pp. 27-28, 33)

A second input to the CAPM calculation, the market risk premium, is the difference between the expected returns of the stock market and a purely riskless bond. (AT&T/MCI Jt. Ex. 2, p. 29) A wide variety of means have been employed, and have the support of academicians, for developing the market risk premium, ranging from estimates based on long-term historical data (over various time periods) to purely forecasted approaches. (See *Id*., pp. 29-31) The historical risk premium based on data for the period 1926-2002 is approximately 7%, whereas the forward-looking risk premium advocated by most experts is about 4%.[41] (*Id*., pp. 30-31) Accordingly, rather than select a single method or source for the market risk premium, Ms. Murray used an average consisting of (i) the most widely-cited historical equity premium from Ibbotson and Associates and (ii) an average forward-looking equity premium based on four prominent sources (each of which used a different methodology for forecasting the equity risk premium). She gave equal weight to the historical value and to the average of the four forward-looking values. She also adjusted these values to place them on a consistent basis in terms of the riskless rate of return assumed in calculating the

[41]The historical period of 1926-2002 is based on the use of a well-known series of historical stock market data maintained and published by Ibbotson and Associates, which begins with 1926 data.

respective equity risk premiums. The result was an average equity risk premium of 5.00%. (*Id*., pp. 31-32)

To develop the third input into the CAPM analysis, the forward-looking riskless rate of return, Ms. Murray averaged the 10-year forecast of the rate on 10-year U.S. Treasury notes with the current rate on 10-year Treasury notes. This procedure produced an estimate of the average 10-year Treasury note rate expected to prevail over the next ten years of 4.61%. (AT&T/MCI Jt. Ex. 2, pp. 32-33)

Based on the inputs developed as discussed above, Ms. Murray's CAPM estimate of the forward-looking cost of equity capital was 9.19%. (AT&T/MCI Jt. Ex. 2, p. 33) She averaged this CAPM cost of equity estimate with her DCF cost of equity estimate (9.72%) to produce an overall forward-looking cost of equity capital of 9.46%. (*Id*.)

Two steps in Staff Witness Mr. McNally's cost of equity analysis, that Joint CLECs submit are inappropriate, are primarily responsible for his higher, 12.44% cost of equity estimate. The first of these steps was his use of a constant growth DCF model rather than a multi-stage growth model.[42] This was inappropriate because the analysts' forecasted five-year growth rates for the firms in Mr. McNally's comparable companies noticeably exceeded forecasts of long-term economic growth. (AT&T/MCI Jt. Ex. 2.1, pp. 4, 15-17) This is not a sustainable long-term condition. Further, the consensus growth rates for the firms in Mr. McNally's comparable sample dropped by some 200

[42]As Mr. McNally acknowledged, in the most recent proceeding in which it had to determine SBC's cost of equity, Dockets 98-0252/98-0335 (Cons.), Staff used a multi-stage DCF growth model. (Staff Ex. 12.0, p. 9; AT&T/MCI Jt. Ex. 2.1, pp. 3-4)

basis points from the time period from which he took the data he used to prepare his direct testimony (May 2003) to January 2004. (*Id*., pp. 4, 17-18)

Mr. McNally's use of the constant growth DCF model also affected his CAPM analysis, because he used a constant-growth DCF calculation for the S&P 500 in developing his equity risk premium estimate, resulting in an equity risk premium that is extremely high and out of line with long-term economic growth forecasts. (*Id*., pp. 5-6, 17) As Ms. Murray pointed out, Mr. McNally's 8.89% equity risk premium was excessive and out of line with all reputable estimates of which she was aware. (*Id*., p. 19) For example, the Ibbotson Associates long-horizon expected equity risk-premium, constructed using historical data for the period 1926-2002 and published in 2003, is 7.0%. (*Id*., pp. 19-20) In an article published in early 2003, Ibbotson and Chen estimated the forward-looking equity risk premium to be approximately 5.9%. (*Id*., p. 20) Mr. McNally's use of an extremely high equity risk premium increased his CAPM cost of equity estimate by 200 to 300 basis points over the results he would have obtained based on these recognized sources. (*Id*., pp. 21-22)

In addition, Mr. McNally's comparable sample, consisting of seven companies, included a number of companies that are not comparable in risk to SBC. Two of the companies (none of them RBOCs) have much lower bond ratings than SBC, indicating a much higher degree of risk for those companies. Two of Mr. McNally's other companies have a high percentage of non-wireline operations and are not included in the same industry groupings as SBC and other ILECs published by recognized sources such as Thomson Financial Network and Yahoo Finance. (AT&T/MCI Jt. Ex. 2.1, pp. 18-19) Attempting to estimate the cost of equity for the UNE line of business by looking

at firms that are perceived to be far riskier than SBC or firms in an industry grouping with much higher projected earnings growth rate than SBC and other ILECs, as Mr. McNally did, does not provide a reasonable or accurate measure of investors' expectations for SBC's UNE line of business. (*Id*., p. 19)

The Proposed Order fails to recognize the significant impact that the Staff's use of a constant-growth DCF model versus Joint CLEC witness Ms. Murray's use of a three-stage DCF model has on the cost of equity estimates in this case. The Proposed Order simply states that "As for ATT/MCI's other major criticism of Staff's cost of common equity analysis, we believe that while the use of a non-constant growth DCF model may be appropriate in some circumstances, it is not necessary here. The Commission concludes that the growth rates employed by Staff are sustainable and, in this instance, the constant growth DCF analysis produces reasonable results." (Proposed Order, p. 79) The Proposed Order's statement that "the growth rates employed by Staff are sustainable" is unsupportable in light of the fact that Mr. McNally's growth rates for his proxy group (and thus by inference for SBC Illinois) are in excess of the projected growth rate for the overall economy.

With respect to Staff's selection of a proxy group, the Proposed Order states that "by including non-RBOC companies in its sample, Staff has effectively modeled the level of risk associated with the business of providing UNE." (Proposed Order, p. 79) This statement is also unsupportable when one evaluates the additional companies included in Staff's sample group that were not included in Ms. Murray's sample group: AllTel, CenturyTel, Sprint and Telephone and Data Systems ("TDS"). (See Staff Ex. 12.0, Sched. 12.2) None of these companies are involved in the business of providing

UNEs to anywhere near the same extent as the RBOCs (who have additional obligations under the Telecommunications Act of 1996 not borne by other ILECs), if at all. At least two of these companies (Sprint and TDS) have significant CLEC operations. Further, the Proposed Order ignores the fact that all four of these companies have lower credit ratings than SBC, Bell South and Verizon, and thus have higher risk and a higher cost of capital, all other things equal.[43]

Finally, the Proposed Order's Conclusion on cost of equity says nothing about the other major factor driving Staff's cost of equity estimate upward, namely, Mr. McNally's excessive risk premium estimate in his CAPM analysis, which the record shows is out of line with other reputable estimates.

For all of these reasons, the Commission should find that Staff's cost of equity estimate is excessive and that the cost of equity estimate prepared by Joint CLEC witness Ms. Murray is the most reasonable estimate in the record.

Proposed Replacement Language

The following changes should be made to Section III.B.3.c.4, "Commission Analysis and Conclusion", of the Proposed Order concerning cost of common equity:

We reject the SBC estimate of the cost of equity ~~based~~ because, among other things, it is based upon old data, not reflecting current economic conditions. Such an analysis is simply not useful for estimating the forward looking cost of common equity. We accept AT&T/MCI's~~Staff's~~ analysis rather than that of Staff ~~ATT/MCI~~ because we find that AT&T/MCI's proxy group ~~Staff's Telecom Sample~~ produces numbers compatible with a forward looking competitive environment. ~~Contrary to~~ As correctly shown by the arguments of ATT/MCI, by including four non-RBOC companies in its sample, each of which has a lower credit rating than SBC, Verizon and BellSouth and therefore is riskier and would be expected to have a higher cost of capital than the RBOCs, Staff has captured a~~effectively modeled the~~ level of risk in excess of the risk

[43]The credit ratings of his proxy group as reported by Mr. McNally are: SBC, AA-; Verizon, A+; Bell South, A+; AllTel, A; TDS, A-; CenturyTel, BBB+; and Sprint, BBB-. (Staff Ex. 12.0, Sched. 12.2)

associated with the business of providing UNE. In fact, the four non-RBOCs that Staff included in its sample group are clearly engaged in the provision of UNEs to a far lesser extent than are the RBOCs, if at all. Two of these non-RBOC firms have substantial CLEC operations. However, the ~~The~~ Commission does find ~~also finds~~ no merit in SBCI's assertion that Staff's sample is biased~~.~~ to SBCI's detriment; to the contrary, as just discussed, Staff's sample consists of companies with greater risk than SBCI and produces a higher forward-looking cost of equity with respect to SBC's business of providing UNEs than is warranted. The results of Staff's analysis demonstrate the fallacy of SBCI's argument. As for ATT/MCI's other major criticism of Staff's cost of common equity analysis, we believe that ~~while~~ the use of a non-constant growth DCF model is the most ~~may be~~ appropriate approach in the ~~some~~ circumstances of this case~~, it is not necessary here~~. The Commission concludes that the growth rates employed by Staff are not sustainable in the long run given that they exceed projections of growth for the economy as a whole; therefore, use of a three-stage DCF model, as employed by ATT/MCI witness Murray, is necessary in the circumstances of this case ~~and, in this instance, the constant growth DCF analysis produces reasonable results~~. Finally, we agree with ATT/MCI that Staff's CAPM analysis uses an excessive equity risk premium that is out of line with other current risk premium estimates, and thus produces an unrealistically high CAPM cost of equity estimate. In summary, based on our review of the record, we conclude that the cost of equity analysis presented by ATT/MCI is the most reasonable analysis presented in this case, and we therefore adopted the recommended forward-looking cost of common equity presented by ATT/MCI witness Murray.

d) Capitalization Structure

(4) Commission Analysis and Conclusion

Exceptions

As indicated above under "Exceptions – Overview", if the Commission adopts Joint CLECs' cost of common equity recommendation (9.46%), it should also adopt Joint CLECs' proposed common equity ratio (66.12%), to maintain consistency; whereas if the Commission adopts Staff's cost of common equity recommendation (12.44%), it should also adopt Staff's proposed common equity ratio (51.00%), as recommended by the Proposed Order. Joint CLECs' proposed capital structure was developed using the book values of SBC's debt and a 50%-50% average of the book value of SBC Illinois' equity and the market value of the comparable companies. Joint CLECs' proposed forward-looking capital structure has a higher percentage of equity

than does SBC Illinois' current book capital structure. (See Joint CLEC Initial Br., pp. 123-24)

Joint CLECs' bigger concern is with the relative amounts of short-term debt (4.78%) and long-term debt (44.22%) in the capital structure adopted by the Proposed Order. Joint CLECs believe that including only 4.78% short-term debt in the forward-looking capital structure is too low. The Proposed Order states (p. 82) that Joint CLECs' recommendation that 22.35% of the capital structure in this case be represented by short-term debt "is excessive when considering the financing of long-lived assets." However, in the TELRIC I Order, issued in February 1998, the Commission adopted a capital structure that included 23.3% short-term debt, which was the amount of short-term debt in Ameritech's then-actual book capital structure. (See TELRIC I Order, pp. 10-12) Further, at December 31, 2002, 25.4% of SBC Illinois' capital structure was short-term debt (composed almost entirely of short-term debt owed to SBC).[44] (AT&T/MCI Jt. Ex. 2, p. 74 and Attach. TLM-2, p. 1) In short, over an extended period of time, SBC/Ameritech has maintained levels of short-term debt in its capital structure equal to or greater than the short-term debt percentage Joint CLECs have recommended. Clearly, SBC Illinois is in fact using short-term debt to finance long-lived assets (as well it should given the low cost of short-term debt). SBC itself has repeatedly taken advantage of the cheap short-term financing opportunities that have been available in recent years. (AT&T/MCI Jt. Ex. 2, p. 74) The Commission would provide a windfall to SBC if it set SBC Illinois' UNE rates using a 4.78% short-term debt rate (with the balance comprised of higher-cost long-term debt and equity) when SBC

[44]Long-term debt was 13.1% of SBC Illinois' capital structure at December 31, 2002. (AT&T/MCI Jt. Ex. 2, Attach. TJM-2, p. 1)

Illinois' capitalization is in fact financed 20-25% by short-term debt (with most of that consisting of borrowings from its parent).

Accordingly, if the Commission adopts Joint CLECs' recommendation for a 66.12% equity ratio and a 9.46% cost of equity, it should set the short-term debt and long-term debt components of the capital structure at 22.35% and 11.53%, respectively, as recommended by Joint CLECs. On the other hand, if the Commission adopts Staff's recommendation for a 51.0% equity ratio and a 12.44% cost of equity, it should set the short-term debt ratio at 22.35% as recommended by Joint CLECs, with the balance – 26.65% – consisting of long-term debt.

Proposed Replacement Language

The following revisions should be made to Section III.B.3.d.4, "Commission Analysis and Conclusion", of the Proposed Order:

1. The fifth paragraph in Section III.B.3.d.4 should be revised as follows:

MCI/ATT propose that we set the proportion of short-term debt at 22.35%. ~~However, even though that~~ That percentage is consistent with both Ameritech's book value of short-term debt in its 1998 capital structure that the Commission adopted in the TELRIC I Proceeding, and the book value of short-term debt in SBC Illinois' more recent actual capital structure (December 31, 2002)~~., we find that this percentage of short-term debt is excessive when considering the financing of long-lived assets.~~ Thus, it is apparent that over an extended period, SBC has been financing significant portions of its permanent assets with short-term debt in the range of 20% to 25% of its total capitalization. Therefore, we adopt ATT/MCI's ~~Staff's~~ recommendation that we include 22.35% ~~4.78%~~ short-term debt in the capital structure.

2. If the Commission adopts Joint CLECs' recommendation for a 9.46% cost of common equity, then the eleventh paragraph in Section III.B.3.d.4 should be revised as follows:

ATT/MCI have proposed a 66.12% equity ratio based upon SBC's book and market value capitalization and the market value capitalization of companies comparable to SBC. This approach was chosen in part because market value information is not available for subsidiary companies like SBC Illinois. ~~While we~~ We

believe that the equity ratio proposed by ATT/MCI is reasonable and consistent with industry standards~~,~~. As indicated earlier, we also conclude ~~find~~ that the 51% equity ratio proposed by Staff would be reasonable, and ~~will most likely produce the optimal marginal capital structure because it minimizes the cost of capital while maintaining a reasonable level of financial strength for the company. Again, the Commission is convinced~~ that Staff's analysis has produced a capital structure that will produce a firm with financial strength consistent with an investment grade credit rating. ~~We find that the other parties' proposals are not nearly as well supported as Staff's.~~ In this case, however, because we have adopted ATT/MCI's recommended cost of equity, we believe that for consistency purposes we should adopt ATT/MCI's proposed common equity ratio as well. Accordingly, the Commission finds that the common equity component of the forward-looking capital structure should be set at 66.12%.

3. If the Commission adopts Joint CLECs' recommendations for a 66.12% common equity ratio (and 9.46% cost of common equity) and a 23.35% short-term debt ratio in the capital structure, then the final paragraph in Section III.B.3.d.4 should be revised as follows:

This leaves 11.53% ~~44.22%~~ to be financed through long-term debt. Inputting these values we find an overall cost of capital of 7.54% ~~8.94%~~ to be reasonable and supported by the evidence.

Component	**Cost Rate**	**Percent of Total**	**Weighted Cost**
Common equity	~~12.44%~~ 9.46%	~~51.00%~~ 66.12%	~~6.34%~~ 6.25%
Long Term Debt	5.60%	~~44.22%~~ 11.53%	~~2.47%~~ 0.65%
Short Term Debt	2.84%	~~4.78%~~ 22.35%	~~0.13%~~ 0.64%
Total		100%	~~**8.94%**~~ **7.54%**

4. Alternatively, if the Commission adopts Staff's recommendations for a 51.00% common equity ratio (and 12.44% cost of common equity) and adopts Joint CLECs' recommendation for a 23.35% short-term debt ratio in the capital structure, then the final paragraph in Section III.B.3.d.4 should be revised as follows:

This leaves 26.65% ~~44.22%~~ to be financed through long-term debt. Inputting these values we find an overall cost of capital of 8.47% ~~8.94%~~ to be reasonable and supported by the evidence.

Component	Cost Rate	Percent of Total	Weighted Cost
Common equity	12.44%	51.00%	6.34%
Long Term Debt	5.60%	~~44.22%~~ 26.65%	~~2.47%~~ 1.49%
Short Term Debt	2.84%	~~4.78%~~ 22.35%	~~0.13%~~ 0.64%
Total		100%	**~~8.94%~~ 8.47%**

C. Other Loop Recurring Cost Modeling and Input Issues

1. Cable and DLC Installation costs/factors

Exceptions

The Joint CLECs take exception to the Proposed Order's adoption of SBC's use of factors (i.e., linear loading factors) to determine SBC's costs of installing cable and other loop material and equipment. Specifically, the Proposed Order concludes that "the use of an average based installation cost methodology is appropriate for purposes for setting UNE loops." (Proposed Order at 92). This conclusion completely misconstrues the issue at hand. The relevant question is not whether to use averages to determine installation costs, as the Proposed Order seems to imply. No party disputes that. The only relevant question is whether SBC's use of the *historical, embedded,* average relationship between material costs and total installed costs can possibly derive *forward-looking, least-cost, most efficient* installation costs, as required by the TELRIC methodology.

On this critical question, the Proposed Order fails to provide any explanation. The Proposed Order also fails to properly apply the TELRIC methodology or account for the wealth of record evidence proving that SBC's use of embedded installation factors dramatically overstates its installation costs. And the Proposed Order does not address, much less even mention, the Joint CLEC recommendation that SBC's DLC

installation costs should be restated using data from SBC's Project Pronto business case.

The Joint CLECs therefore take exception to the Proposed Order's conclusion concerning installation factors and urge the Commission to adopt the proposed replacement language provided below which: (i) rejects the use of embedded installation factors to derive installation costs, (ii) adopts the CLEC use of SBC's own internal engineering job estimation tool (JAM) to populate LoopCAT's installation costs, and (iii) adopts the use of SBC's Project Pronto business case to restate LoopCAT DLC installation costs.

While the Joint CLECs believe this exception should be adopted, if the Commission determines to use linear loading factors, we support the Staff recommendation, adopted by the Proposed Order, that SBC's installation factors be calculated by using the least-cost installation factors in the three years of data SBC used to derive those factors. At the very least, this approach serves to eliminate some, but certainly not all, of the overstatement of cable installation costs resulting from SBC's use of linear loading factors.

a) The Proposed Order Cites to No Evidence That Linear Loading Factors Result In Forward-Looking Installation Costs, and No Such Evidence Exists in the Record

What is wholly lacking in the Proposed Order is any discussion whatsoever of why SBC's linear loading factors result in appropriate average installation costs. The closest the Proposed Order comes to any reasoning is in its statement that: "the use of an average based installation cost methodology is appropriate for purposes of setting UNE loop prices." (Proposed Order at 92). However, the mere fact that linear loading

factors result in averages does not mean that those averages bear any relationship to the installation costs for the equipment being studied in LoopCAT. LoopCAT does not average SBC's installation costs over the last three years for the equipment in question, as the Proposed Order seems to suggest. Rather, LoopCAT calculates installation costs by a comparison of material to total costs over a recent three-year period.

Critically, what the Proposed Order does not address is whether there is any reason to believe that there is a linear relationship between material and installation costs. If not, there is no reason to believe, or for the Commission to conclude, that the relationship between material and installation costs demonstrates anything relevant to this proceeding. In other words, the Proposed Order fails to ask (or answer) the fundamental question: *Does the relationship between material and installation costs provide a reliable manner to determine average, forward-looking installation costs for any piece of equipment?*

Indeed, when given the chance, SBC's own witnesses denied that the cost of cable is directly (or linearly) related to the cost of installing it. Although the Proposed Order does not mention this testimony, it apparently found it unavailing because of its conclusion that: "A linear loading methodology ***does not*** assume that installation costs are directly proportional to material costs." (Proposed Order at 92 (emphasis added).)

The Proposed Order is wrong. That is precisely what linear loading factors assume – and that is exactly why they are named ***linear*** loading factors. To determine the cost of installing a piece of equipment, SBC applies a single installation factor to the material price of the equipment. SBC calculates that installation factor by determining the relationship between the material and total installed costs (over a three-year period)

for certain generic equipment types. Thus, as the material price of a piece of equipment increases, SBC's LoopCAT study assumes that the cost of installing that equipment increases on a proportional/linear/straight line basis. For example, for $1,000 in cable a .50 cable installation factor results in $500 in LoopCAT installation costs. That same .50 installation factor would assume $1,000 in installation costs for a $2,000 cable. In other words, LoopCAT assumes that it is twice as expensive to install a piece of equipment for the sole reason that the equipment costs twice as much. If there is not a linear relationship between the material and installation costs of cable, LoopCAT's use of linear loading factors – to generate "average" costs – would generate inaccurate (and inflated) average installation costs. And, as explained below, that is exactly what the evidence demonstrated occurs with the use of linear loading factors.

(1) SBC Presented No Evidence of a Linear Relationship Between Material and Installation Costs

SBC presented absolutely no evidence demonstrating that these linear loading factors result in appropriate installation costs. First and foremost, SBC admitted that there is no linear relationship between the cost of material and its installation cost. Indeed, both of SBC's witnesses conceded that cable installation costs are not directly proportional to the cost of material. In a discovery response attributed to its chief cost witness Mr. Smallwood, SBC admitted that installation costs *are not* directly proportional to the cost of material:

> Request: Confirm or deny that the installation of cable is not directly proportional to the cost of the material. If this statement is denied, provide a detailed explanation and give an example of when this would not be true.

Response: Confirm.[45]

At hearing, SBC's chief engineering witness, Mr. Randall White, was shown this fully agreed with Mr. Smallwood's response.[46] Mr. White, SBC's General Manager of Engineering in Illinois, went out of his way to provide testimony explaining that the cost of placing cable is constant, no matter the size (and cost) of the cable. (SBC Ex. 8.2, p. 4, see also Tr. 491). SBC also admitted that it costs the same to install a DLC cabinet no matter its size. (AT&T Ex. 2.0, p. 47). Based on this evidence from SBC, it is simply not reasonable for the Proposed Order to adopt a pricing methodology -- linear loading factors -- that has no basis in fact.

(2) SBC Presented No Evidence of a Consistent Relationship Between Material and Installation Costs

Beyond proving the existence of a linear relationship, the Commission might have expected SBC to at least argue that its installation factors are fairly constant over time, and therefore reliable to estimate forward-looking average installation costs.[47] SBC did not make that argument, and it is not true. The record uncovered dramatic variances in SBC's historic installation factors over the three years of data SBC relied upon to calculate its factors. For example, while material purchases can be easily reduced or eliminated, labor costs are not as readily avoidable.[48] This fact would skew the formula by which SBC calculates its installation factors by increasing the

[45]AT&T Cross Ex. 19.

[46]Tr. 497.

[47]To be clear, even if this were true, which it is not, the use of linear loading factors would not be appropriate.

[48]AT&T Ex. 2.0, p. 42-43.

denominator (total installed cost, which includes labor costs) but decreasing the numerator (material costs) – thereby inflating the installation factors. SBC's data demonstrates that this phenomenon ***** BEGIN CONFIDENTIAL** xxxxxxx **END CONFIDENTIAL***** the installation factors for all cable equipment between 2001 and 2002. The EF&I for buried fiber cable, which was *****BEGIN CONFIDENTIAL** xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx.[49] **END CONFIDENTIAL. *****

This degree of short-term variability demonstrates that loading factors, derived by short-term data, cannot be the basis for long-term forward-looking cost assumptions which, by definition, are supposed to abstract from short-term temporary phenomenon such as economic downturn. If these variable factors are accurate, one would have to assume that SBC's costs for installing cable are similarly fluctuating on a yearly basis. Obviously, that assumption is not only baseless, but it is unsupported by the record. There is no reason to believe that the cost of installing copper cable doubled or quadrupled in a particular year. However, that is exactly what the implausible fact that the use of linear loading factors would lead the Commission to believe.

(3) SBC Presented No SME Opinion Concerning the "Reasonableness" of the Installation Costs Derived by LoopCAT's Linear Loading Factors

At the very least, the Commission should have expected SBC to provide some testimony from its subject matter experts ("SMEs") confirming that they had reviewed the installation costs resulting from LoopCAT and that they believed those costs to be reasonable. Remarkably, however, SBC did not even provide this evidence. Instead,

[49] AT&T Ex. 2.0 pp. 42-43.

SBC asks this Commission to adopt the use of linear loading factors without any reason to do so.

SBC did not provide testimony from its own engineers to support its assertion that LoopCAT's linear loading factors result in "average" installation costs that, in the aggregate, are reasonable and forward-looking. At hearing, Mr. Smallwood admitted that SBC never asked its engineers to "sanity check" the LoopCAT factors to ensure their reasonableness (Tr. 740-41). To the contrary, even when those engineers (including SBC witness Mr. White) spoke up to voice their objections about specific cost overstatements, Mr. Smallwood ignored their opinion, blindly assuming that these errors would be washed out in the "averaging process." (Tr. 491). Now, SBC asks this Commission to blindly accept Mr. Smallwood's assurances that linear loading factors are appropriate for use in a TELRIC study. With no proof to support those conclusions, the Commission simply cannot do so.

(4) The Proposed Order Does Not Even Mention the Joint CLEC Recommendations Concerning DLC Installation Costs

The Proposed Order does not even mention the Joint CLEC proposal that SBC's DLC installation costs be replaced with SBC's Project Pronto business case data to reflect the forward-looking costs of DLC installation. The Commission must modify the Proposed Order to account for this issue. There is a substantial amount of evidence supporting the conclusion that SBC's DLC costs are massively overstated. Beyond our objections to the generic use of linear loading factors, the Joint CLECs strenuously

object to the use of linear loading factors to calculate the installation costs for DLC equipment.[50]

It is worth recapping how LoopCAT calculates DLC installation costs. The use of linear loading factors results in LoopCAT assuming that the total cost of a DLC system (including material and installation) is *****BEGIN CONFIDENTIAL** xxxxxxxx **END CONFIDENTIAL*****, of which a sizable *****BEGIN CONFIDENTIAL** xxxxxxx **END CONFIDENTIAL***** is attributable to installation labor. (AT&T Ex. 2.2, p. 7). The Joint CLECs, on the other hand, relied upon Project Pronto data to restate these installation costs to include *****BEGIN CONFIDENTIAL** xxxxxx **END CONFIDENTIAL***** in installation costs, with a total cost of *****BEGIN CONFIDENTIAL** xxxxxxxx **END CONFIDENTIAL*****.

Numerous items of record evidence confirmed that SBC's use of linear loading factors massively overstates DLC installation costs. These same items affirm the reasonableness of the Joint CLEC witnesses' cost estimates:

- First, one SBC expert (Mr. Trott in Texas) estimated that the total costs of the 2016 DLC RT, <u>including</u> installation, material, line cards, land and building, ranged between $120,000-150,000. (AT&T Ex. 2.0, pp. 72-76). When subtracting out the cost of line cards from this estimate (resulting in *****BEGIN CONFIDENTIAL** xxxxxxx **END CONFIDENTIAL***** in total costs), it is clear that the use of linear loading factors derives a DLC installation cost *****BEGIN CONFIDENTIAL** xxxxx **END CONFIDENTIAL***** times the estimates provided by SBC's own experts. (*Id.*) These estimates are very much in line with the Joint CLEC estimate of total costs -- *****BEGIN CONFIDENTIAL** xxxxxxx **END CONFIDENTIAL*****.

- Second, the SBC JAMS estimates produce an estimate of *****BEGIN CONFIDENTIAL** xxxxxxx **END CONFIDENTIAL***** in installation costs for a DLC RT, very much in line with the Project Pronto installation estimates of

[50] Thus, even if the Commission were to adopt SBC's linear loading factors for other equipment types, it should, at the very least, order SBC to use the Joint CLEC estimates of DLC installation costs.

BEGIN CONFIDENTIAL** xxxxxx **END CONFIDENTIAL and which cannot be reconciled with SBC's inclusion of some ***BEGIN CONFIDENTIAL xxxxxxxxxxxx END CONFIDENTIAL*** in installation costs in its study.

- Third, SBC's California witness, Ms. Bash, admitted that it would not take multiple weeks to install a DLC-RT. (AT&T Ex. 2.0, p. 77-78). This testimony cannot be squared with the results of SBC's application of linear loading factors, which would result in months of work to put in a DLC-RT.

- Fourth, SBC used an installation factor in a recent Wisconsin cost case that is significantly lower than the DLC installation factor used by SBC in Illinois. (PSCW Docket No. 6720-TI-161, Final Decision at 146).

SBC quibbled with some of these data points. Citing to a figure of ***BEGIN CONFIDENTIAL** xxxxxxxx **END CONFIDENTIAL*** SBC first argued that its revised cost of installing a DLC-RT falls within Mr. Trott's total DLC cost range of $120-150,000. (SBC Initial Br. at 92,93, 99-100). That is false. As noted, SBC's total cost of putting in a DLC-RT, including all material and installation, is ***BEGIN CONFIDENTIAL** xxxxxxxxxxx **END CONFIDENTIAL***.** (AT&T Ex. 2.2 p. 7) SBC's comparison is not an apples to apples comparison, as Mr. Trott's estimate included all material and installation costs, including line cards, while the ***BEGIN CONFIDENTIAL** xxxxxxxx **END CONFIDENTIAL*** figure cited by SBC does not include all installation costs (such as those captured by other factors such as land and building) or material costs (such as line cards) – and that is exactly what AT&T witnesses Mr. Pitkin and Mr. Turner told SBC when asked about these figures during the hearing.[51] (Tr. 1643-46).

SBC further claimed that AT&T misconstrued Ms. Bash's testimony from Texas, which was meant to indicate that a full crew of "3 or 4" technicians could put in a DLC-

[51] SBC also criticizes Messrs. Pitkin/Turner's attempt to back out the cost of line cards from Mr. Trott's estimates of total DLC costs. However, that is entirely appropriate, since Messrs. Pitkin/Turner were comparing Mr. Trott's estimate to SBC's recommendation in this proceeding that did not include line cards. Moreover, Mr. Trott himself admitted that his estimate included line cards.

RT in a week. Of course, there is no evidence to support SBC's after-the-fact construction of Ms. Bash's intent. However, whether Ms. Bash meant to assume three technicians or two (as assumed by Messrs. Pitkin/Turner) is really irrelevant. The fact remains that SBC's DLC installation costs are far in excess of the costs that would result from the time 2, 3 or 4 technicians could spend in a week or even two weeks to put in a DLC system. Indeed, assuming even a $100 per hour labor rate, SBC's DLC cost assumptions would still require over a month of work by a 3 or 4 man crew to put in a DLC. Clearly, Ms. Bash's testimony affirmed that such an assumption is wholly unreasonable.

SBC repeatedly claimed that Messrs. Pitkin/Turner "ignored" certain costs that are not shown in the Project Pronto business case, such as minor material and "other installation costs." (See SBC Ex. 4.1, p. 74). Of course, SBC witness Mr. Smallwood, who made this claim, did not identify or substantiate these allegedly missing costs. And when asked at hearing whether he ever asked those SBC personnel who put the Project Pronto study together whether such costs were missing, Mr. Smallwood said he did not, despite the fact that one of those persons is his boss. (Tr. 771-773). Based on this testimony, there is no credible evidence that any costs are missing from the Project Pronto business case.

It is notable that each SBC witness who provided independent estimates of average DLC installation costs confirmed the reasonableness of the total DLC costs reflected in the Joint CLECs' restatement (Mr. Trott in Texas, Ms. Bash in California). One would think that based on the highly litigious nature of this particular issue, SBC would have its engineering witness, Mr. White, provide this Commission a competing

analysis. But SBC and Mr. White did not, despite every opportunity to do so. Instead, SBC tried to discredit the numerous CLEC-provided data points, all of which affirmed the unreasonableness of the use of linear loading factors in establishing DLC installation costs. The Commission should not be fooled by SBC's silence. SBC knew exactly what the CLECs contend: that SBC's use of linear loading factors in establishing DLC installation costs massively inflates those costs. It is SBC's burden alone to substantiate its forward-looking costs; it has not met that burden here.

The Joint CLECs therefore urge the Commission to instruct SBC to revise LoopCAT by populating its DLC installation costs with the costs reflected in SBC's Project Pronto business case. With that said, in determining DLC installation costs, the Commission should not feel bound to adopt either SBC's loading factor approach, or the Project Pronto business case. The Commission should feel free to adopt any of the following data points as the forward-looking installation costs of a DLC system: (i) the installation costs provided in the Project Pronto business case, (ii) the JAMS installation estimates of *****BEGIN CONFIDENTIAL** xxxxxxx **END CONFIDENTIAL*****, (iii) use of the SBC Wisconsin DLC installation factor, or (iv) an installation value that would result in total costs (i.e., material and installation) for a 2016 DLC system (including line cards) of between $120,00 and $150,000, as estimated by SBC's Mr. Trott in Texas. The Commission absolutely should not accept SBC's position that DLC installation costs are multiple times greater than every one of these independent estimates. What the Commission **cannot do**, is to adopt the Proposed Order and turn a blind eye to this detailed record evidence that establishes that the use of linear loading factors drastically overstates DLC installation costs.

b) The Proposed Order Misapplies TELRIC in Concluding that Linear Loading Factors Are Consistent With TELRIC

In adopting SBC's linear loading factor approach, the Proposed Order rejects the Joint CLEC arguments concerning why linear loading factors are inconsistent with TELRIC. (Proposed Order at 92). The Proposed Order discards, as "unconvincing," the CLEC argument that SBC's linear loading factors are not TELRIC-compliant because "they do not reflect appropriate economies of scale" inherent in the larger "total" network build-out required by the TELRIC rules. (*Id.)* Instead, the Proposed Order interprets TELRIC as allowing installation costs to be based on costs associated with piecemeal installation projects, such as those which underlie SBC's linear loading factors. (Proposed Order at 92 ("In addition, even a forward-looking network requires replacements and augmentations from time to time.")).

Regardless of how the Commission might decide the issue of installation factors, it must address the fact that the Proposed Order's construction of TELRIC is wrong. SBC does not use installation factors to determine SBC's cost of augmenting or installing cable and equipment on a piecemeal basis. To the contrary, LoopCAT – as used by SBC itself – uses those factors to account for one cost and one cost alone: *the costs of installing, on a wholesale basis, the material and equipment the three composite loops LoopCAT has designed*. Such an initial network build-out is the very essence of the FCC's TELRIC methodology. SBC's costs of augmenting its network are not relevant to the question of what it would cost SBC to install the TELRIC "replacement" network, all at once, as demanded by the TELRIC methodology. (*See also* Staff Initial Br. at 109: "Staff's point is that TELRIC requires a determination of the

costs 'to build an efficient network today,' not the costs to supplement later the network that would be built today.")

SBC's embedded linear loading factors fail to reflect economies of scale demanded by that total network build out. SBC's embedded relationships of installation costs to material costs reflect SBC's experience with construction projects that are much smaller than those that are associated with a scorched node, forward-looking cost study as required by the FCC. The FCC's so-called scorched node rule requires that the ILEC must assume that it has replaced its existing network with the least-cost, most efficient technology currently available assuming that its customer locations and wire centers remain static. (*See* 47 C.F.R. § 51.505(b)(1) ("The total element long-run incremental cost of an element should be measured based on the use of the most efficient telecommunications technology currently available and the lowest cost network configuration, given the existing location of the incumbent LEC's wire centers.")) As the FCC stated in promulgating the TELRIC rules in the *Local Competition Order*, this assumption is a key to providing the economies of scale and scope that TELRIC requires be reflected in UNE pricing. (Local Competition Order, ¶679). Even the TELRIC NPRM affirms this requirement: "TELRIC Models typically are designed to answer the following question: If a single carrier were to build an efficient network today to serve all customer locations within a particular geographic area, taking as given only the locations of existing wire centers, how much would it cost to construct and maintain the network?" (TELRIC NPRM, ¶49). As the FCC stated in its order adopting TELRIC: "We, therefore, conclude that the forward-looking pricing methodology for interconnection and unbundled network elements should be based on costs that

assume that wire centers will be placed at the incumbent LEC's current wire center locations, but that the *reconstructed local network* will employ the most efficient technology for reasonably foreseeable capacity requirements." (*Local Competition Order,* ¶ 685 (emphasis added).)

SBC's witnesses readily admit that the linear loading factors used in LoopCAT are based upon the higher, incremental construction costs rather than the lower, per unit, new construction costs that should appropriately be used in a TELRIC study.[52] And the evidence also demonstrates that a vast majority of SBC's installation projects are augmentations rather than new construction.[53] Thus, not only did the Proposed Order misconstrue the TELRIC methodology, but it wrongly found that SBC's installation factors, based as they are on small jobs for augments, are TELRIC compliant.

c) The FCC and Other States Have Questioned the Use of Linear Loading Factors

It is also notable that after a multi-year review of cost models and cost model inputs, with comments filed from across the industry, the FCC adopted a bottom-up methodology for use in the USF Synthesis Model. Specifically, the FCC adopted an approach that identifies the total installed cost for each piece of equipment. This bottom-up approach uses an appropriate methodology for separately developing total installed cost (both material and installation) for each piece of equipment, taking into consideration the specific size, material and installation costs.

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[52]AT&T Ex. 2.0, pp. 38-41 (citing to testimony of SBC witness Mr. White and Schedule RSW-7 to his direct testimony, which purports to show that the cost of incremental capacity in an initial construction job is substantially less than the cost of adding the same increment of capacity at a later date).

[53]*Id.*

Similarly, in its *Virginia Arbitration Order*, the FCC Wireline Competition Bureau ("WCB") seriously questioned the use of linear loading factors. There, Verizon (the ILEC) relied on such factors to calculate installation costs in its interoffice cost study. As part of their reply case, CLECs attempted to restate Verizon's cost studies that were built on linear loading factors. While the WCB noted that it was bound by the rules of "baseball" arbitration to adopt one side's position, it went out of its way to question the use of EF&I factors in TELRIC studies. Notably, the WCB shared the very concerns raised by the CLECs here: that EF&I factors "bear no relationship" to the forward-looking installation costs of equipment:

> There is some doubt about the reliability of both Verizon's and AT&T/WorldCom's proposed EF&I factors. Our concerns stem from the fact that the EF&I factor for a specific piece of equipment is derived by applying to the equipment an unsupported *pro rata* share of the cost of installing all equipment associated with that account. As a result, the relationship between the actual installation costs associated with particular pieces of equipment and the installation estimates used to determine the EF&I factor is unclear. The actual costs may be less than or greater than the *pro rata* allocation. *Verizon's claim that the lack of accuracy of the individual in-place costs is not relevant because the factor is calculated on an aggregate basis may not resolve this issue because the pro rata allocation appears to bear no relationship to the EF&I costs associated with any particular type of equipment within an account. (Virginia Arbitration Order,* ¶ 523 (emphasis added)).

In other words, the mere fact that EF&I factors result in *averages* does not mean that *those averages* bear any relationship to the installation costs for any particular piece of equipment. Here, the Commission, unlike the FCC, has before it a bottom-up proposal that would allow it to reject EF&I factors in total. The Commission should follow the lead of the FCC and do just that.

In short, the Proposed Order tacitly adopts SBC's argument that linear factors on the average provide the best tool for computing average installation costs under

TELRIC. However, this conclusion could only be true if there were reliable evidence that material and installation costs are linearly related or otherwise reliable estimators of installation costs. Otherwise, as the FCC found, the "averages" derived by linear loading factors bear no relationship to installation costs. In essence, SBC is asking the Commission to use linear loading factors to derive installation costs: (i) absent any evidence that their use derives appropriate, TELRIC-based installation costs, even on average, (ii) absent any evidence that there is a consistent/linear relationship between material and installation costs, and (iii) absent any study or other evidence to rebut SBC's own admissions (and CLEC expert testimony) that there is not, in fact, a linear relationship between installation costs and material prices. It is SBC's burden alone to prove the reasonableness of its TELRIC costs. In its final Order, the Commission should reject the use of linear loading factors to determine installation costs.

d) The Proposed Order Wrongly Rejects the Use of JAM Data to Restate LoopCAT's Cable Installation Costs

The Proposed Order also rejects the CLEC proposal to adopt a "bottom-up" approach to determining installation costs using SBC's JAMS system. (Proposed Order at 93). AT&T witnesses Messrs. Pitkin/Turner used SBC's own data to conduct a reliable bottom-up approach. Through discovery, they gained access to information from SBC's internal cost estimation system, JAMS, in order to determine and evaluate how SBC estimates average construction costs for its internal purposes. Using this data, they were able to eliminate most of the loading factors employed in LoopCAT and replace them with SBC's own "average" construction cost estimates derived from JAMS.

The Proposed Order's rejection of JAM was predicated on its conclusion that "SBC provided evidence that JAM is an estimation tool, nothing more." (Proposed

Order at 93). However, that is exactly the purpose of this docket -- to estimate forward-looking costs. And that is exactly why JAM is an appropriate tool for estimating those costs: because SBC's own engineers use JAM to estimate the costs of installation projects. Certainly, those engineers do not use contrived linear loading factors to estimate the costs of installation jobs.

The Proposed Order further concludes that: "there is nothing inherent in JAM that makes it a better indicator of efficient operations than SBC's 3 years of actual experience." (Proposed Order at 93). However, SBC has not provided this Commission its actual installation costs over the last three years, although it certainly could have done so (using its AUTH system). Instead of providing this evidence, it has instead chosen to rely on relationships between material and total cost to derive its installation costs by factors, not by direct evidence. Moreover, JAMS is the more appropriate tool to use to estimate forward-looking costs because it is the very tool its engineers use to estimate what it should cost them to complete certain installation jobs. As such, this is the best data available on this record for the Commission to determine the forward-looking costs of installation.

It is uncontested that SBC uses JAMS data to estimate the costs of construction projects, including installation costs. The SBC-provided JAM documentation established the following concerning JAMS:

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1. xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx.[54] xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx

[54]AT&T Ex. 2.0, p. 48-52.

xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx"[55] xxxxxxxxxxxxxxxxxxxxxxxxx xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx xxxxxxxxxxxxxxxxxxxxxxx.

2. xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx.

3. xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx."[56]

*****END CONFIDENTIAL**

SBC uses JAMS to check that invoices do not exceed project costs.[57] The JAMS data, in fact, is used to set contract limits in SBC's accounting systems, like PICS/DCPR. The contract limits derived from JAMS data are used as a screen to stop SBC's payment of invoices that exceed JAMS limits. SBC does not rely on linear loading factors to check vendor invoices, it uses JAMS.

JAMS contains installation cost estimates that SBC actually uses in running its business; moreover, unlike loading factors, these installation cost estimates are directly tied to the specific type of equipment being installed. By using SBC's own data, which are at least closer to its actual practices, Messrs. Pitkin/Turner developed separate installation costs, and moved LoopCAT a step closer to capturing forward-looking costs. The Commission should therefore endorse the use of a bottom-up approach to developing accurate cost estimates for performing installation functions similar to the method utilized by SBC's JAMS, rather than SBC's linear loading factor methodology.

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[55] AT&T Ex. 2.0, pp. 49-54 and Attachment BFP/SET-2 and BFP/SET-3.

[56] AT&T Ex. 2.0, 48-53 & Attachment BFP/SET-3.

[57] AT&T Exhibit 2.0, p. 90; Tr. 499-501.

The Commission should reject as wholly unsubstantiated SBC's criticisms of the Joint CLECs' use of JAMS. SBC's Mr. White and Mr. Smallwood argued that the JAMS data the Joint CLECs relied upon, which was provided by SBC in discovery, is missing certain types of costs. However, neither of these witnesses described or quantified these allegedly missing costs, nor did either bother to check whether Messrs. Pitkin/Turner captured some or all of these "missing" costs by applying factors (*e.g.,* engineering, power, and land and building factors) to the JAMS data. In fact, the evidence indicates that Messrs. Pitkin/Turner did just that.

Mr. White's criticisms of the CLECs' use of JAMS are baseless. Mr. White claimed that the JAMS estimates upon which Messrs. Pitkin/Turner relied somehow drastically understated SBC's actual costs. However, his testimony is directly contradicted by SBC's internal documentation (described above), all of which establishes the fact that SBC uses the JAMS estimates to track its actual expenditures and, in fact, refuses to pay for jobs that overrun those estimates.

Mr. White claimed that there could be "variances" and unexpected circumstances that arise on a job. The Proposed Order itself seemed to accept this testimony, concluding that: "JAM does not capture all the necessary activities, such as unforeseen field conditions, for installation projects." However, as the JAMS documentation quoted above indicates, JAMS provides <u>average</u> cost estimates. Averages, by their very nature, taken into account the different circumstances that might be found on differing jobs. Mr. White, in his pre-filed testimony, agreed with this assessment of JAM, testifying that: "JAM by design uses average time estimates for its installation activities." (SBC Ex. 8.1, p. 18; see also Tr. 539-540 ("JAM provides a cost of what it takes for an

average technician to utilize standard tools in performing that function under normal conditions").)

Mr. White also criticized Messrs. Pitkin/Turner for leaving out certain "installation" costs from their JAMS estimates, including costs such as pole and conduit placement and costs of rights of way. Mr. White therefore referred to Messrs. Pitkin/Turner's use of JAMS as "simplistic." However, SBC has no basis to claim any errors exist in the JAMS estimates it provided AT&T. SBC, in its own words, provided AT&T JAM estimates "as an engineer would use the JAM system." (AT&T Cross Ex. 20; AT&T Ex. 2.0, p. 70) SBC, therefore cannot argue that JAM estimates it provided, and which AT&T used and relied upon, were somehow flawed and overly "simplistic."

Based on this record, there is no credible evidence that Messrs. Pitkin/Turner's use of the JAMS installation estimates excluded costs, or that the JAMS estimates are otherwise unreliable for the purpose for which Messrs. Pitkin/Turner used them.

In fact, in a Wisconsin TELRIC proceeding, an unbiased SBC engineering witness confirmed that JAMS is a reliable estimation tool. During a hearing in Wisconsin on February 20 of this year, SBC witness Mr. Gordon Fletcher – who is Director SBC Outside Plant Planning in Illinois and Wisconsin – provided sworn testimony confirming two important facts. First, Mr. Fletcher indicated that SBC's outside plant engineers use JAMS to provide CLEC cost estimates in instances when SBC must put in new UDLC facilities to provide CLECs a loop served over IDLC. (AT&T Ex. 2.2, pp. 12-14). Second, he also confirmed that SBC uses JAM in its ordinary course of business to estimate installation costs and that JAM is a reliable cost estimator:

Q. What else – what I am trying to get at, what other reasons would S.B.C. use this JAM in the ordinary course of doing installation work in its network?

A. To gather material and labor costs associated with a particular undertaking.

Q. And you think it's a reliable tool?

A. Yes.

***

Q. …Is it a reliable tool in estimating installation costs?

A. Yes.[58]

The Proposed Order also questioned Messrs. Pitkin/Turner's slight modification to the JAMS data. (Proposed Order at 93: "In addition, AT&T made modifications to JAM-produced data that seem unwarranted and unsupported by evidence.") Specifically, Messrs. Pitkin/Turner made two modifications to the JAMS data: (1) they modified the labor rates to reflect the labor rates proposed by AT&T witness Mr. Flappan, and (2) they modified the "set up" times in the work installation estimates to account for the efficiencies of scale and scope inherent in a TELRIC study. Messrs. Pitkin/Turner made no other changes to the JAMs installation time estimates provided by SBC.

As to the modification of labor rates, Joint CLECs concede that those rates should be consistent with the Commission's ultimate resolution of the labor rate issues in this docket. Messrs. Pitkin/Turner's modifications to the setup times in JAMS are necessary for these estimates to be TELRIC-compliant. These setup times reflect the time it takes SBC employees to travel to and from a job site. Obviously, if the employee

[58]See transcript citations at AT&T Ex. 2.2, pp. 13-14.

can do more jobs at a particular location, per-job travel time is greatly reduced. The TELRIC pricing methodology requires that we assume that the ILEC has deployed the least-cost most efficient network and equipment, assuming its wire centers and customers remain static. The ILEC benefits from this assumption by being allowed to fully depreciate its plant and equipment as if it were placed today. The tradeoff, of course, is that the ILEC must assume the efficiencies that would be achieved by putting this network in place today. As Messrs. Pitkin/Turner explained, the JAMS estimates reflect smaller construction projects associated with maintaining and expanding a large network that is already in place. (AT&T Ex. 2.0, pp. 53-55). These small projects fail to encompass the efficiencies in travel and setup times associated with the initial build-out of a network. TELRIC mandates that the Commission consider this type of build-out. Therefore, the Commission should adopt the modifications to the JAMS setup times as appropriate in order to make those times TELRIC compliant.

However, if the Commission is wary of these modifications, the result is not to reject the use of JAMs in total. To the contrary, the Commission should direct the use of the JAMs estimates as provided directly by SBC.

Proposed Replacement Language

For the reasons discussed above, the Commission should strike the entirety of Section III.C.1.d, "Commission Analysis and Conclusion," at pages 92-93 of the Proposed Order and replace it with the following language:

SBC's LoopCAT does not calculate equipment installation costs directly. Instead, LoopCAT relies upon a series of "linear loading factors" to estimate the non-material portion of the total investment for most network components. These non-material costs include installation costs. These linear loading factors are sometimes referred to as engineer, furnish, and install ("EF&I") or in-place factors. In simple terms, through LoopCAT, SBC applies these factors to the material price for a particular piece

(or pieces) of equipment to calculate the construction cost of the asset. Using its historic accounting data, SBC calculates these linear loading factors by comparing the total cost of a particular equipment account to the material costs in that account. The linear loading factor of a $1.00 light bulb that costs 50 cents to engineer, furnish and install would be 1.5 -- $1.50 (total cost) divided by $1.00 (material cost) = 1.5 (loading factor). SBC applies the same loading factor to the alleged "forward looking" material cost of all equipment within a particular accounting code, referred to as Field Reporting Codes. SBC derives these alleged forward-looking material costs from its vendor contracts.

We find that the use of linear loading factors is inappropriate for a multitude of reasons. First, these factors are inherently unreliable, as there is no evidence of any linear relationship between material costs and installation cost – e.g., a $1,000,000 Picasso painting takes the same time to hang on the wall as a $20 Velvet Elvis. In addition, linear loading factors are inconsistent with the TELRIC methodology, as the factors reflect embedded, and not forward-looking, costs, and fail to reflect economies of scale associated with new installations. Instead of using such factors to derive installation costs, AT&T witnesses Messrs. Pitkin and Turner used SBC's own Job Administration Management System ("JAMS"), which provides SBC's average installation cost estimates for different types of projects.

The Commission rejects the use of linear loading factors for deriving installation costs, and directs the use of the AT&T Pitkin/Turner modified JAMS data in LoopCAT. It is SBC's burden to demonstrate that those factors are appropriate for use in its TELRIC studies. SBC wholly failed to meet that burden. Indeed, neither its chief cost witness, Mr. Smallwood, nor its chief engineering witness, Mr. White, could state that there is a linear relationship between material and installation costs. In discovery and at hearing, both these witnesses flatly denied the existence of a relationship between material and installation costs. Yet LoopCAT assumes and applies a linear relationship in order to determine installation costs.

Linear loading factors do not comply with the TELRIC methodology, as they rely upon embedded data and fail to reflect economies of scope and scale associated with the placement of new plant and equipment, as assumed in a TELRIC cost study. Additionally, linear loading factors are inappropriate because they are based on "black box" data that cannot be verified. Indeed, the record shows that when the CLECs finally got behind SBC's previous black box database (PICS/DCPR), they found massive double counts that, when accounted for, reduced SBC's hard-wire DLC installation factor by some 80%. SBC has replaced that black box with another: its General Ledger data. There is no reason for the Commission to rely on yet another black box that may include similar problems.

The record also established that the JAMS data relied upon by the CLECs came from SBC systems that provide reliable estimates of average installation costs for cable. These SBC systems properly build installation costs from the "bottom-up" by estimating the labor time and costs of installation rather than applying confusing "factors" to material expenditures. By the term "bottom-up," we mean that the cost of the particular

element being studied will be determined by its unique attributes rather than by application of a factor that is often arbitrary and unfounded. JAMS is, in fact, the system used by SBC's own engineers to estimate construction costs. Thus, the Commission directs that LoopCAT be modified to include the modified JAMS data, as provided by Messrs. Pitkin/Turner.

In addition, we find that LoopCAT's use of linear loading factors overstates SBC's DLC installation costs. The record included numerous independent estimations of DLC installation costs, all of which affirm that LoopCAT's installation costs are massively overstated. For example, SBC's own engineering witnesses in Texas estimated the total costs for installing DLC RT to be between $120-150,000, while another SBC engineering witness in California testified that it should take several weeks to install a DLC RT. This testimony cannot be squared with SBC's application of linear leading factors, which result in DLC installation costs many times higher than these estimates, and which would entail months of work by SBC technicians. SBC's DLC estimates are also contradicted by SBC's JAMs estimates and SBC's installation costs used in a recent Wisconsin TELRIC case.

We adopt Joint CLECs' use of SBC's Project Pronto business case to restate SBC's DLC installation costs. That business case reflects SBC's internal, forward-looking view of what it costs to install DLCs. There is no reason to believe that SBC would have left out any costs from this business case, which was presented by SBC to the financial community. SBC failed to identify any costs it believes are missing from this business case. Joint CLECs' estimate of DLC installation costs, using this Project Pronto business case, fall directly in line with the other data points described above.

3. DLC investment cost issues

a) Remote terminal cabinet sizes

(4) Commission Analysis and Conclusion

Exceptions

In a most peculiar ruling, the Proposed Order adopts SBC's inclusion, in its rebuttal testimony, of smaller 448 DLC remote terminal cabinet sizes. This decision is peculiar because it serves to increase costs in comparison to SBC's original recommendation -- that only 672 and 2016 DLC RTs be assumed in LoopCAT. As Staff witness Mr. Koch testified at hearing, he recommended the inclusion of smaller RTs in LoopCAT with the full expectation that this modification would decrease costs, thereby

resulting in more efficient DLC costs. (Tr. 1917-18). However, SBC's inclusion of these smaller DLCs caused costs to increase, resulting in higher, less efficient DLC costs. (AT&T Ex. 2.1, pp. 50-53; AT&T Ex. 2.2 p. 4 Figure 1). Nonetheless, the Proposed Order adopts SBC's misapplication of the Staff recommendation. The CLECs take exception to this conclusion.

The Proposed Order may suffer from the misapprehension that this change causes SBC's costs to decrease. Indeed, in adopting this change, the Proposed Order agrees with Staff, stating that "failing to include smaller, less expensive cabinet sizes could inflate loop costs." (Proposed Order at 97). Based on this finding, Joint CLECs assume that the Proposed Order thought that this change decreased overall costs. This would be incorrect, however. There is no debate that inclusion of the 448 RTs increase overall costs – even SBC cannot and does not deny that. The Proposed Order does not address this evidence.

Instead, the Proposed Order dismisses this evidence as follows: "We find AT&T's claims of increased costs not convincing because Access Area A, which is AT&T's focus of the complaint, has less then 2% of the feeder plant on DLC systems and, therefore, any shift in RT sizes has almost no impact on the resulting loop rate." (Proposed Order at 97). This reasoning is also wrong. First, AT&T's "complaint" is not focused on Access Area A, and the Proposed Order gives no explanation as to why it believed AT&T's complaint to be so narrowly focused. To be clear, AT&T's complaint is that, on the whole, inclusion of 448 DLC RTs serves to significantly increase LoopCAT DLC costs. Figure 1 in AT&T Ex. 2.2P provides a detailed comparison of SBC's per line costs for 448, 672, and 2016-line DLC RTs in Access Area B. Clearly, this data

demonstrates that investment per line in a 448 line RT is significantly higher than in a 672 line RT, and nearly double that of a 2016 line RT. SBC does not contest these facts.

Moreover, the fact that this change results in a small cost increase in Access Area A, even if correct, does not change the fact that it results in an unwarranted cost increase in that Access Area. No party contests the fact that SBC's application of Staff's suggestion inflates costs, not even SBC.

The TELRIC methodology demands that the Commission adopt the least-cost, most efficient network technology currently available. If larger RT sizes result in least-cost, most efficient DLC costs, then the Commission is bound to adopt the larger sizes and reject SBC's inclusion of the 448 DLC RTs. Indeed, in a contemporaneous ruling, the Proposed Order itself recognizes this simple fact in holding that "we find that Staff's demand to include even smaller cabinet sizes [than 448 RTs] is unreasonable and could lead to increase in the cost of the loop." (Proposed Order at 98). Manipulation of RT sizes that serve to increase costs cannot be sustained.

Finally, the Proposed Order states that the CLECs have argued in favor of using increased fill rates in the 448 cabinets. (Proposed Order at 97). That is not exactly true. What the CLECs have argued is that SBC misapplied this Staff suggestion by not assuming higher utilization rates in the smaller cabinets.[59] We are not asking the Commission to fix SBC's application of Staff's recommendation. We are asking the

[59] To be clear, the reasons that SBC's inclusion of smaller DLCs causes costs to increase are because SBC's modeling assumptions are not internally consistent. In any given distribution area, demand is fixed, and using smaller DLC RTs should reduce excess capacity. The problem with SBC's incorporation of the smaller 448 DLC RTs is that SBC did not increase the fill factor for these units – the result being that SBC's analysis assumes there is no benefit to smaller DLC RTs.

Commission to reject this change in total because it serves to increase costs. It is inappropriate to use the smaller DLC because it does not reflect the least-cost most efficient network configuration.

Proposed Replacement Language

Based on the above, the Commission should strike the entirety of Section III.C.3.a.4, "Commission Analysis and Conclusion," at pages 97-98 of the Proposed Order and replace it with the following language:

We reject SBC's misapplication of the Staff suggestion to include 448-line DLC RTs in its studies. It is uncontested that this modification serves to significantly increase SBC's DLC RT costs. Thus, SBC's application of this change would not reflect the least-cost, most efficient network configuration demanded by the TELRIC methodology. We believe that Staff may have a valid point that smaller RTs could result in decreased costs by increased utilization. However, that is not the manner in which SBC executed this change, and there is little time or record evidence upon which we could determine the proper fill factors to be applied to these smaller RTs to ensure these cost savings.

b) Alcatel discounts

(3) Commission Analysis and Conclusion

Exceptions

The Proposed Order erroneously rejects the inclusion of the two additional Alcatel DLC equipment discounts set forth in Amendment 3 to the SBC/Alcatel agreement in the DLC equipment prices modeled in LoopCAT. (*See* SBC Ex. 15.0, Schedule DGP-R15, p. 3, ¶ F). While explicitly acknowledging that SBC has neither modified nor terminated that agreement (including the relevant amendment), the Proposed Order concludes that neither of the two discounts at issues [sic] are currently effective, nor will either be applied to DLC equipment prices in the future." (*See* Proposed Order at 100).

The Proposed Order misses the point, which is that SBC's decision to forgo – *voluntarily* – two significant Alcatel DLC equipment discounts to which it was *unconditionally* entitled is inconsistent with the forward-looking, least-cost, most-efficient principles that guide TELRIC. The CLECs have *not* argued (as the Proposed Order appears to conclude) that these discounts are currently effective, or that they will be in the future. Instead, the CLECs have argued that they should not have to bear the financial brunt of SBC's decision to let Alcatel "off the hook" with respect to these two guaranteed discounts simply because SBC has decided to negotiate new contract terms with Alcatel that will provide SBC with a benefit at least equal to the unconditional discounts that the company agreed to give up.[60]

The record is clear that SBC will be receiving a different but equivalent financial benefit when it ultimately concludes its renegotiations with Alcatel. (*See* Tr. 1350-52; 1366-72). That benefit should and must be reflected in SBC's TELRIC costs. The best proxy for quantification of this forward-looking benefit (given SBC witness Donald Palmer's inability to quantify it) is the two Alcatel DLC equipment discounts provided for in SBC's current contract, which remains in place and valid. Any other result would permit SBC's attempt to play "hide the ball" with these savings and obtain inflated loop rates by swapping the guaranteed discounts that would be factored into SBC's cost studies for equivalent benefits in other areas. The Commission should therefore adopt the proposed replacement language set forth below.

[60] In addition, it is wholly inappropriate to accept SBC's assertions regarding a "change" in the terms of a written agreement that has admittedly been neither modified nor terminated, and which requires any amendments to be executed in writing. It would be a slippery slope indeed to permit SBC to claim that the express terms of documents that it has tendered in this proceeding do not *really* mean what they say because SBC and Alcatel have an "understanding" otherwise.

Proposed Replacement Language

The following changes should be made to Section III.C.3.b.3, "Commission Analysis and Conclusion," of the Proposed Order concerning Alcatel discounts:

The evidence clearly establishes that ~~neither of~~ the two discounts at issue~~s are currently effective, nor will either be applied to DLC equipment prices in the future~~ were unconditional, and yet voluntarily foregone by SBC in conjunction with its efforts to~~. It is also apparent that SBC~~ negotiate~~d~~ a different agreement with Alcatel. While SBC may have done this for legitimate business reasons, the contract amendment providing for these two discounts has neither been modified nor terminated, and thus remains fully effective. We ~~do~~ question SBC's failure to update its agreement to reflect the most current negotiations, and note that in a forward-looking, least-cost, most-efficient TELRIC environment, SBC would not simply "give up" such benefits without receiving something in exchange.

It is evident from the testimony of record that SBC will ultimately receive a benefit equivalent to the two voluntarily-forgone discounts when its renegotiations with Alcatel are memorialized. It is thus appropriate to include these discounts in the Alcatel DLC prices modeled in LoopCAT as a proxy for the forward-looking benefits that SBC will receive through the renegotiation process. We find that SBC has not included the proper contract discount in the DLC equipment prices modeled in LoopCAT. ~~These prices will remain in effect until 2006 and are~~ In order to make those prices appropriately forward-looking and consistent with TELRIC methodology, we~~. Accordingly, we decline to~~ adopt CLECs' position and order SBC to incorporate the two additional discounts in the Alcatel DLC equipment prices modeled in LoopCAT.

c) Mix of Universal Digital Loop Carrier ("UDLC") and Integrated Digital Loop Carrier ("IDLC") facilities

(4) Commission Analysis and Conclusion

Exceptions

Breaking from every recent regulatory decision, including that of the FCC, the Proposed Order adopts SBC's inclusion of just *****BEGIN CONFIDENTIAL xxxxxx END CONFIDENTIAL** IDLC technology in its loop study. This decision cannot be sustained as it is based on the erroneous conclusion that IDLC "cannot be unbundled" -- a conclusion that the FCC soundly rejected in the *Virginia Arbitration Order*. (Proposed Order at 102).

The Commission should direct that LoopCAT assume 100% IDLC technology, or at the very least revise the percentage of IDLC in SBC's study to be more forward-looking. Indeed, when recently faced with similar evidence, the Wisconsin Commission adopted a 50/50 split of IDLC/UDLC facilities. WSPC Docket No. 6720-TI-161, March 19, 2002, Final Decision at 14 ("It is reasonable to assume and use equal proportion (i.e, 50 percent each) of integrated digital loop carrier (IDLC) and universal digital loop carrier (UDLC) when developing the cost of unbundled loops.") While the CLECs believe that recent evidence and decisions favors a 100% IDLC assumption, at the very least the Commission must modify SBC's inclusion of just *****BEGIN CONFIDENTIAL** xxx *****END CONFIDENTIAL** IDLC – an assumption improperly based upon its embedded network.

The record includes extensive technical engineering testimony on this subject, which established that IDLC is the least-cost, most efficient network technology, and that IDLC can be unbundled based on currently available technology. (*See* AT&T Ex. 2.0, pp. 140-146, AT&T Ex. 2.1 pp. 56-57, 64-65). Moreover, the conclusions of AT&T witness Steven Turner on this topic are fully supported by the FCC. In its *Virginia Arbitration Order*, the FCC WCB found that the use of UDLC in developing unbundled loop costs is *inconsistent* with TELRIC. The *Virginia Arbitration Order* put to rest the repeated ILEC argument that it is not technically feasible to unbundle IDLC, and directed Verizon to include 0% UDLC and 100% IDLC (which that order generally referred to as NGDLC) in its TELRIC cost study:

> [W]e agree with AT&T/WorldCom that a TELRIC model should use 100 percent NGDLC systems and should not assume any UDLC system.
>
> We find that the record demonstrates that it is technically feasible to unbundle NGDLC loops, and that this technology is currently available. . . .

> The most revealing information on this issue comes from Verizon's testimony in the non-cost portion of the arbitration. There, a Verizon witness admitted that Verizon has had the technical ability to provide unbundled NGDLC for *four to five years* but chose not to implement a standard offering because competitive carriers had not sufficiently pursued such an offering.
>
> Accordingly, because it is technically feasible to unbundle loops that transverse NGDLC systems and because the technology to do so is currently available we will use AT&T/Worldcom's proposal of 100 percent NGDLC in our determination of loop rates.[61]

In its recent TELRIC order, the Indiana Commission followed this FCC pronouncement, directing SBC to include 100% IDLC in LoopCAT.[62]

SBC inappropriately assumes the historic and embedded DLC configuration within SBC's network, with complete disregard for forward-looking technology. The Proposed Order ignored the technical record evidence on this subject, which was provided by CLEC witness Mr. Turner. Thus, the Joint CLECs believe that a summary of that evidence is appropriate, including evidence explaining how IDLC can be unbundled. (*See also* AT&T Ex. 2.0 at 140-150.)

DLC-RTs have two main configurations that can be used to interface loops served by a DLC-RT into the network or a local switch – universal mode and integrated mode. Each loop is multiplexed at the DLC-RT into a channel between the DLC-RT and the DLC-COT so that it can be transmitted across the fiber. With UDLC, each loop is de-multiplexed back down to an individual loop at the DLC-COT, converted back from a digital to an analog signal (despite the fact that it will need to be reconverted to a digital

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[61] *Virginia Arbitration Order,* ¶¶ 312, 315, 322.

[62] Indiana Utility Regulatory Commission, *In the Matter of the Commission Investigation and Generic Proceeding of Rates and Unbundled Network Elements and Allocation for Indiana Bell Telephone Company*, IURC Cause No. 42393 (Jan. 5, 2004) ("Indiana Order"), p. 47.

signal to enter the digital switch) and actually connects into the network or the local switch as a 2-wire analog copper loop – no different from how an all-copper loop coming from the field would interface into the switch. In an integrated mode, the loop is assigned to a time slot (similar to multiplexing but more flexible) between the DLC-RT and DLC-COT. DLC in an integrated mode requires less multiplexing and demultiplexing and creates an opportunity to gain additional savings by taking advantage of a capability known as concentration and by allowing for traffic engineering between the DLC-RT and DLC-COT such that it is possible to assign 96 lines to each equivalent DS-1 between the DLC-RT and DLC-COT (described as four-to-one concentration) or 144 lines to each equivalent DS-1 between the DLC-RT and DLC-COT (described as six-to-one concentration), further reducing the need for plug-in cards at the switch and at the DLC-COT. In short, the use of integrated DLC-RTs is significantly more efficient than the use of universal DLC-RTs and should be the exclusive DLC network configuration in an efficient, forward-looking TELRIC network.

Incumbents such as SBC frequently claim that it is impossible or overly difficult to unbundle loops on integrated DLC-RTs, claiming instead that integrated digital loop carrier systems are connected directly into the digital switch. In this proceeding, SBC asserted that stand-alone UNE loops cannot be efficiently unbundled in an IDLC platform. The Proposed Order adopted this assertion. However, this is simply not true, as the FCC has found (see citations above). Moreover, SBC's extreme assumption that UNE loops should bear the cost of a UDLC arrangement was contradicted by its discovery responses in this docket. Given the fact that, as least as of the last available count, only 6% of SBC UNE loops are in a UNE-L arrangement and therefore need to

be physically unbundled, SBC's notion that UNEs somehow require ***** BEGIN CONFIDENTIAL** xxxxx **END CONFIDENTIAL***** percent universal facilities to accommodate the 6% of UNE loops is entirely baseless. These facts weigh heavily in favor of some upward modification to SBC's assumption regarding IDLC technology.

The bottom line is that IDLC is the most efficient alternative for utilizing the capabilities of NGDLC. IDLC is the first choice for SBC's engineers with NGDLC deployment. Consequently, IDLC and not UDLC should be utilized in developing the efficient, forward-looking cost for unbundled loops. UDLC is inferior to IDLC systems because IDLC systems require that the circuit only be digitized once at the DLC-RT, instead of converting the signal from analog to digital form on multiple occasions – as is required by UDLC systems. Likewise, IDLC allows a carrier to aggregate individual DS-0 (voice-grade) circuits into larger, more efficiently transported bandwidths (DS-1, DS-3, *etc.*). In this manner, IDLCs reduce costs (because there is no need for digital/analog conversion equipment like the DLC-COT and associated line equipment used by non-integrated systems).

The Proposed Order is also wrong to conclude that the cost differences between IDLC and UDLC "is not clear." One need only compare the DLC investments per line for UDLC against the limited percentage of IDLC presented by SBC in this proceeding to see the order of magnitude difference in costs. The difference in cost between IDLC configurations and UDLC configurations has to do with the cost of the DLC-COT. Even using all of SBC's incorrect inputs, LoopCAT reveals central office investment of ***** BEGIN CONFIDENTIAL** xxxxxxx **END CONFIDENTIAL ***** per UDLC line versus ***** BEGIN CONFIDENTIAL** xxxxxx **END CONFIDENTIAL ***** per IDLC line. This

difference is significant and illustrates the need to incorporate efficient, forward-looking IDLC technology into the cost studies. (AT&T Ex. 2.0, pp. 140-146).

In short, the Commission should revise the Proposed Order and direct either: (i) the inclusion of 100% IDLC, or (ii) the inclusion of a more significant percentage of IDLC as would be found in a forward-looking network (such as the 50% assumption made by the Wisconsin commission).

Proposed Replacement Language

Section III.C.3.c.4, "Commission Analysis and Conclusion," at page 102 of the Proposed Order, should be stricken in its entirety and replaced with the following language:

We also direct that LoopCAT assume 100% IDLC technology. We agree with the FCC Wireline Competition Bureau that the use of UDLC in developing unbundled loop costs is inconsistent with TELRIC. We also agree that the record establishes that ILDC loops can be unbundled. We took much record evidence on this subject from both sides. We specifically agree with the conclusions of the FCC Competition Bureau in its *Virginia Arbitration Order*. There, the Competition Bureau put to rest the ILECs' repeated arguments that it is not technically feasible to unbundle IDLC and therefore directed Verizon to include 100% IDLC in its TELRIC cost study.

[W]e agree with AT&T/WorldCom that a TELRIC model should use 100 percent NGDLC systems and should not assume any UDLC system.

We find that the record demonstrates that it is technically feasible to unbundle NGDLC loops, and that this technology is currently available. . . . The most revealing information on this issue comes from Verizon's testimony in the non-cost portion of the arbitration. There, a Verizon witness admitted that Verizon has had the technical ability to provide unbundled NGDLC for *four to five years* but chose not to implement a standard offering because competitive carriers had not sufficiently pursued such an offering.

Accordingly, because it is technically feasible to unbundle loops that transverse NGDLC systems and because the technology to do so is currently available we will use AT&T/Worldcom's proposal of 100 percent NGDLC in our determination of loop rates. *Virginia Arbitration Order,* ¶¶ 312, 315, 322.

SBC inappropriately assumes the historic and embedded DLC configuration within SBC's network, with complete disregard for forward-looking technology. IDLC-

based loops should assume the use of integrated technologies in all cases because IDLC systems are more efficient and less expensive. The record supports IDLC as the most efficient alternative for utilizing the capabilities of NGDLC. Consequently, IDLC, not UDLC, should be utilized in developing the efficient, forward-looking cost for unbundled loops. UDLC is inferior to IDLC systems because IDLC systems require that the circuit only be digitized once at the DLC-RT, instead of converting the signal from analog to digital form on multiple occasions – as is required by UDLC systems. Likewise, IDLC allows a carrier to aggregate individual DS-0 (voice-grade) circuits into larger, more efficiently transported bandwidths (DS-1, DS-3, *etc.*). In this manner, IDLCs reduce costs (because there is no need for digital/analog conversion equipment like the DLC-COT and associated line equipment used by non-integrated systems).

f) Allocation of Shared DLC Components

(3) Commission Analysis and Conclusion

Exceptions

The Proposed Order adopted SBC's assumption of 24 units of common DLC investment per DS-1 loop. However, it revised this assumption to account for the percentage of IDLC assumed in the study (recognizing that this 24-1 assumption is clearly inappropriate if IDLC technology is used to service a loop). For the reasons discussed above, the Commission should revise this ruling to account for 100% IDLC (or whatever percentage of IDLC the Commission ultimately adopts).[63]

Proposed Replacement Language

Section III.C.3.f.3, "Commission Analysis and Conclusion" on pages 105-106 of the Proposed Order, should be deleted and replaced with the following language:

Another flaw in SBC's DLC assumptions in LoopCAT is that SBC incorrectly allocates shared facilities on a DS-0 equivalent basis. Specifically, SBC calculates the common investment in DLC by spreading it across all possible DS-0 terminations. In the case of a 2-Wire Analog loop, the DLC common investment would apply one unit of common investment. However, when SBC develops the cost for a DS-1 loop in LoopCAT, SBC actually applies 24 units of common investment. From a space

[63]Joint CLECs do not agree that the inclusion of the IDLC is the sole reason to discount SBC's 24 to 1 ratio. However, since the inclusion of DLC is so clear, it follows the Proposed Order's reasoning on this issue.

standpoint, the DS-1 loop does not consume 24 times the common equipment capacity of the 2-wire analog loop, but only 4 times the capacity. SBC's studies should be modified to reflect this fact.

The real issue is whether the remote terminal exhausts first due to bandwidth limitations (SBC's position) or space exhaust (CLEC position). If SBC were to utilize the most efficient remote terminal configuration available to it – IDLC – there is no question that the limiting characteristic would be line card space. Thus, since we have followed the lead of the FCC and ordered the use of 100% IDLC in SBC's TELRIC cost study, we reject SBC's attempt to overstate the cost of its DS-1 services by allocating 24 times the investment to those services. Instead, the Commission orders an allocation factor of 4.

4. Distribution terminal and premises terminal costs

a) NID and Drop Wire Installation Costs

(3) Commission Analysis and Conclusion

Exceptions

The Joint CLECs take exception to the Proposed Order's conclusion concerning NID and Drop Wire Installation Costs, at pages 111-112. The Joint CLECs' exception to this conclusion is based on the following points:

- First, the Commission should adopt the Joint CLECs' bottom-up restatement of the NID/Drop costs. The Proposed Order does not address this recommendation, instead finding that "the only remaining issue" in this section involves Staff's modification of the NID/Drop travel times.

- Second, in the event the Commission does not adopt the Joint CLEC bottom-up restatements, the Commission should, at the very least, direct SBC to use linear loading factors to restate its NID/Drop costs. The Proposed Order wrongly characterizes the CLEC argument as follows: "CLECs assert that SBC has chosen to utilize linear loading factors [for NIDS and Drops] when they result in higher rates." Proposed Order at 144. Just the opposite is true. Here, we are arguing (as we always have) that SBC is using an overstated bottom-up methodology when its use of linear loading factors would result in lower NID/Drop costs. The Commission should direct SBC to use a consistent methodology when determining installation costs.

- Third, regardless of how the Commission might decide these issues, it must fix the Proposed Order's misconstruction of the TELRIC methodology when it states that: "we do not find that TELRIC

requires, nor would it be practical to assume, that we are considering the construction of a brand new network from the ground up." (Proposed Order at 111). That is exactly what TELRIC demands.

SBC does not use linear loading factors to determine the installation costs of NIDS and Drops. As AT&T witnesses Messrs. Pitkin/Turner pointed out, if SBC had used linear loading factors to restate its NID/Drop costs, it would have resulted in NID/Drop costs that are a fraction of the costs resulting from SBC's "independent" cost development. (AT&T Ex. 2.1, p. 49 **BEGIN CONFIDENTIAL** xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx **END CONFIDENTIAL.**

However the Commission might ultimately decide the issue on the use of installation factors, this analysis must prove one of two alternative points: (1) that SBC's NID and Drop investments are significantly overstated (if linear loading factors do accurately reflect costs, as SBC and the Proposed Order contend), or (2) that SBC's linear loading factors cannot accurately estimate forward-looking costs. SBC cannot have it both ways. If this Commission finds, as the Proposed Order did, that linear loading factors are an appropriate way to determine installation costs, then it must order SBC to use that approach to calculate its NID/Drop installation costs. Otherwise, it will be allowing SBC to use that approach only when it favors SBC. The Commission should require SBC to consistently use its linear loading factor approach and not choose to use "bottom-up" costs for a few categories because SBC's flawed implementation of that approach artificially inflates costs. The Proposed Order does not even mention this CLEC proposal.

If SBC is right that "on the whole and on the average, [installation factors] provide the best tool for computing costs under TELRIC," then SBC must consistently use those

factors to ensure that the "average" is proper. (SBC Initial Br., p. 82). SBC essentially argues that for some equipment, the installation factors might result in overstated costs, but for others they result in understated costs - and, therefore, on average the installation costs are appropriate. While Joint CLECs disagree with SBC's sophomoric argument (and it has offered no proof it is correct), this argument is premised on the fact that SBC consistently uses installation factors for all equipment in LoopCAT. SBC cannot "carve out" certain equipment (NIDS/Drops) from application of a loading factor because the loading factor, in this instance, results in more reasonable costs. Otherwise, SBC will have tampered with the alleged "averages" that it claims make its use of installation factors appropriate.

On the other hand, if the Commission determines that a bottom-up approach is appropriate, it should adopt the bottom-up analysis provided by Messrs. Pitkin/Turner. For many of the same reasons discussed in the Joint CLEC exceptions above, the Commission should find that the Messrs. Pitkin/Turner estimates of NID/Drop installation costs are reasonable and TELRIC-compliant.

Finally, the Commission must clear up a misapplication of TELRIC that pervades the modeling sections of the Proposed Order. Like Staff witness Mr. Lazare, Messrs. Pitkin/Turner also took issue with the travel time estimates relied upon by LoopCAT in calculating NID/Drop costs. Modifications to those travel times are necessary in order to reflect the initial build-out required by the TELRIC, scorched-note methodology (as described above). In rejecting the Staff recommended modifications to those travel times, the Proposed Order incorrectly states that: "we do not find TELRIC requires, nor would it be practical to assume, that we are considering the construction of a brand new

network from the ground up." (Proposed Order at 111). Again, that ruling is directly contradicted by every Illinois (and for that matter every other former Ameritech state) Commission decision on this issue, not to mention the plain terms of the governing TELRIC rules. See 47 C.F.R. § 51.505(b)(1) ("The total element long-run incremental cost of an element should be measured based on the use of the most efficient telecommunications technology currently available and the lowest cost network configuration, given the existing location of the incumbent LEC's wire centers."); *Local Competition Order* at ¶ 685 (We, therefore, conclude that the forward-looking pricing methodology for interconnection and unbundled network elements should be based on costs that assume that wire centers will be placed at the incumbent LEC's current wire center locations, but that the *reconstructed local network* will employ the most efficient technology for reasonably foreseeable capacity requirements."); TELRIC NPRM at ¶ 49 ("TELRIC Models typically are designed to answer the following question: If a single carrier were to build an efficient network today to serve all customer locations within a particular geographic area, taking as given only the locations of existing wire centers, how much would it cost to construct and maintain the network?").

Moreover, SBC itself assumes that the network is put in place all at once from the ground up. SBC's loop cost studies assume that depreciation expense begins on the entire network from day 1, not over a period of time as facilities are installed incrementally (or augmented). SBC, of course, derives quite a benefit from that assumption in the calculation of the forward-looking costs used to compute its UNE prices, because a substantial portion of its facilities and equipment in its "real world"

network is already fully depreciated.[64] Yet SBC ignores the flipside of this same TELRIC assumption about the hypothetical network, that SBC's TELRIC costs must reflect the scale and scope efficiencies that would result from wholesale (rather than piecemeal) replacement or expansion of its entire network. SBC cannot have it both ways. It cannot accept TELRIC principles when it benefits SBC (*i.e.*, depreciation) but ignore them when it does not (*i.e.*, efficiencies in large-scale construction and installation activities).

In other words, if the Proposed Order is right that SBC's "TELRIC" network will be constructed on a piece-meal basis then it should also recognize that the network it is pricing out is largely depreciated. If we are to be "realistic," as the Proposed Order claims to be (Proposed Order at 111), then it should have also eliminated most of the depreciation expense in SBC's cost studies. However, TELRIC requires a contrary set of consistent assumptions, all of which are based on the premise that the ILEC is building out its entire network from scratch (assuming current wire centers and customer locations).

For the same reasons, the Proposed Order is also wrong to assume that SBC is allowed to price out "expansion projects" in a TELRIC cost study. (Proposed Order at 111).[65] That finding is antithetical to the TELRIC assumption that SBC is to build a

[64] As of 2002, SBC's depreciation reserve percentage was 56.5%. (AT&T/MCI Jt. Ex. 1, p. 13)

[65] As for the Proposed Order's finding that SBC should be allowed to recover the cost of maintenance on its forward-looking network, SBC recovers those costs through its maintenance and operating expense factors and costs, which are included otherwise in LoopCAT.

network to serve its current customer base plus reasonably foreseeable demand.[66] *See also Virginia Arbitration Order* at ¶ 30 ("TELRIC equates the current market value of the existing network of an incumbent telecommunications provider with the cost the incumbent would incur today if it built a local network that could provide all the services its current network provides to meet reasonably foreseeable demand using the least-cost, most-efficient technology currently available.") There is no need for SBC to recover in a TELRIC study the cost of future, unknown expansion, and strap current customers with those costs. In a TELRIC study SBC assumes a certain demand (current and future) and, therefore, is able to put in NIDs/Drops on a more efficient basis (especially for current demand), taking into account the economies of scale of putting in more than one NID/Drop at a time. That is the basis of Staff's recommendation, which is wholly consistent with the TELRIC methodology.

In conclusion, the Commission should either adopt the forward-looking bottom-up NID/Drop installation costs proposed by Messrs. Pitkin/Turner, or in the alternative direct SBC to consistently use linear loading factors to calculate installation costs, including the costs of installing NIDs and drops.

Proposed Replacement Language

If the Commission adopts the Joint CLEC restatement of SBC's NID/Drop costs, the Commission should strike in its entirety Section III.C.4.a.3, "Commission Analysis and Conclusion," on page 111 of the Proposed Order and replace it with the following language:

All the parties, other than SBC, took issue with SBC's proposed NID and Drop installation costs. The main problem with SBC's proposed NID and Drop costs is that

[66] So long as unit costs are developed based on that total demand.

they do not comport with the TELRIC assumption that SBC is building out its network all at once to meet a set and known level of demand. To meet that known demand, SBC would place its NIDS and Drops on a more efficient basis. We therefore adopt Messrs. Pitkin/Turner's restatement of SBC's NID/Drop installation costs. We specifically adopt their assumption that two sets of four drops would be placed in a day, effectively decreasing travel/set-up time and connection times (as opposed to SBC's non-TELRIC assumption that each drop and NID would require the full amount of travel and set-up times). Second, we adopt Messrs. Pitkin/Turner reduction to the time to connect buried drop wire at the drop and pedestal to reflect that multiple connections would be made at one time. Third, we adopt their addition of time that SBC designated as buried hand trenching and their division of that time estimate in half to account for the use of trenching machines and the economies associated with requiring only one setup time for multiple drops. Finally, we adopt their use of two-thirds the time estimate for aerial mid-span attachment, since SBC's assumption that all aerial drops would have mid-span attachments is completely unsupported.

In addition, in order to make this finding consistent throughout the Proposed Order, and to eliminate the Proposed Order's misstatement of the CLEC position, the Commission should revise Section III.C.4.b.4, "Commission Analysis and Conclusion" appearing on pages 113-114 of the Proposed Order (relating to the "adjustment to remove double counting"), by striking the following language: "CLECs, however, are not happy with the result. CLECs assert that SBC has chosen to utilize linear loading factors when they result in higher rates. We find this argument unconvincing and accept Mr. Dunkel's acceptance of the correction of the error."

In the alternative, if the Commission adopts linear loading factors as appropriate for determining installation costs, it should strike in its entirety Section III.C.4.a.3, "Commission Analysis and Conclusion," on page 111 of the Proposed Order, and replace it with the following language:

SBC does not use linear loading factors to determine the installation costs of NIDS and Drops. As Messrs. Pitkin/Turner point out, if SBC had used linear loading factors to restate its NID/Drop costs, it would have resulted in NID/Drop costs that are a fraction of the costs resulting from SBC's "independent" cost development.

Since we have accepted the use of linear loading factors as an appropriate manner to determinate average installation costs, we direct SBC to use those factors to

determine its NID/Drop installation costs. If SBC is correct that linear loading factors provide accurate assessments of installation costs, then SBC's proposed NID and Drop investments are significantly overstated. SBC cannot use that approach only when it favors SBC. The Commission requires SBC to consistently use its linear loading factor approach and not choose to use "bottoms-up" costs for a few categories because SBC's flawed implementation of that approach artificially inflates costs. Our use of installation factors is premised on SBC's claim that on the whole and on average these factors result in proper costs. If true, this argument is premised on the fact that installation factors are used for all equipment – to ensure that the average cost is appropriate. By carving out NID and drops, SBC has tampered with these alleged averages that it claims makes its use of installation factors appropriate.

In addition, in order to make this finding consistent throughout the Proposed Order, and to eliminate the Proposed Order's misstatement of the Joint CLEC position, the Commission should revise Section III.C.4.b.4, "Commission Analysis and Conclusion," on pages 113-114 of the Proposed Order by striking the following language: "CLECs, however, are not happy with the result. CLECs assert that SBC has chosen to utilize linear loading factors when they result in higher rates. We find this argument unconvincing and accept Mr. Dunkel's acceptance of the correction of the error."

As a third alternative, if the Commission does not adopt either Joint CLEC proposal described above, the Commission should, at the very least, revise Section III.C.4.a.3, "Commission Analysis and Conclusion," on page 111 of the Proposed Order by adding the following sentence after the existing first sentence, to remove the misinterpretation of TELRIC:

The only remaining issue here is Staff's proposal to reduce travel times. Consistent with our other decisions, we reject that proposal as well as the CLECs' similar proposals to restate SBC's NID/Drop costs by modifying the travel times assumed in SBC's estimate of those costs.

In addition, in order to eliminate the Proposed Order's misstatement of the Joint CLEC position, the Commission should revise Section III.C.4.b.4, "Commission Analysis

and Conclusion," on pages 113-114 of the Proposed Order, by striking the following language: "CLECs, however, are not happy with the result. CLECs assert that SBC has chosen to utilize linear loading factors when they result in higher rates. We find this argument unconvincing and accept Mr. Dunkel's acceptance of the correction of the error." This language should be replaced with the following:

We reject the CLEC arguments that SBC should consistently use linear loading factors and, in particular, we reject the CLEC alternative proposal that SBC use linear loading factors to determine NID and drop installation costs.

b) Adjustment to remove double-counting

(4) Commission Analysis and Conclusion

See exceptions and proposed replacement language in the section above, which modify this section of the Proposed Order to accurately reflect the Joint CLEC position concerning SBC's inconsistent use of linear loading factors.

5. FDI costs

c) Commission Analysis and Conclusion

Exceptions

Joint CLECs also take exception to the Proposed Order's conclusions concerning FDI termination costs. Specifically, the Proposed Order provides as follows:

> The CLECs' proposal to reduce the assumed number of FDI terminations per working loop from 3 to 2.0588 is rejected. The evidence showed that it is more efficient to move service from one customer to another if FDIs are designed to terminate two distribution pairs for one feeder pair. Moreover, CLECs' proposal leaves virtually no spare terminations with which to perform cross connects. (Proposed Order at 118).

This conclusion misconstrues the issue at hand. LoopCAT assumes 3 FDI terminations per working loop while the Joint CLECs assume 2.0588. The Joint CLEC proposal of 2.0588 is a result of the CLEC proposal on fill factors. However, to be

perfectly clear, the Joint CLECs are proposing that the Commission simply order the number of FDI terminations be consistent with its finding on fill factors, whatever that might be.

There is no dispute that the number of FDI terminations per working loop is tied to the spare capacity, or fill factors, in distribution and feeder plant. The Commission should ensure that the number of FDI terminations comport with its adopted fill factors. In other words, Joint CLECs' recommendation is that the FDI has in place two terminations (on both the feeder and distribution side) for both SBC's working loops and for SBC's spare capacity loops. Our recommendation is that the FDI have enough terminations in it to service SBC's network even if it eventually taps into the entirety of its spare loops. This gives SBC the ability to cross connect each and every loop assumed in LoopCAT.

However, the Proposed Order accepts the notion that there is somehow insufficient capacity at the FDI even if spare capacity is accounted for through loop fill factors. The Proposed Order finds insufficient capacity at the FDI necessitating spare terminations that would never be used by either working loops or spare capacity loops. In other words, the Proposed Order builds into the FDI unneeded spare capacity above and beyond the spare capacity assumed by the Commission's approved fill factors. Neither SBC, nor the Proposed Order, explains why SBC would need this additional spare capacity at the FDI, above and beyond the spare capacity its loop fill factors already provide it. Assuming the fill factors set by the Commission are appropriate, SBC would never have occasion to use these spare terminations.

The Joint CLECs also except to the Proposed Order's conclusion rejecting the CLEC proposal that feeder pairs be terminated in the central panel first, but then terminate on either the right or left panel to terminate additional feeder pairs. SBC assumes that feeder pairs would only be terminated in a central panel, but there is no engineering reason why this would be so. (AT&T Ex. 2.0, pp. 130-131). As Messrs. Pitkin and Turner explained, this is sensible given that the ratio of distribution pairs to feeder pairs is far less than one-to-one. Failure to use this approach would cause the center panel of the FDI to fill up, but leave nearly **BEGIN CONFIDENTIAL** xxxx **END CONFIDENTIAL** of the distribution terminations unutilized. (AT&T Ex. 2.0, pp. 130-131). Because this is not an efficient network configuration, and only serves to increase costs, the Commission should adopt this Joint CLEC modification to LoopCAT.

Proposed Replacement Language

The second paragraph of Section III.C.5.c, "Commission Analysis and Conclusion," on page 118 of the Proposed Order, should be stricken in its entirety and replaced with the following language:

We adopt the CLEC proposal to reduce the assumed number of FDI terminations consistent with our recommendations on fill factors. We agree with the CLECs that those fill factors generate sufficient spare capacity to allow SBC to manipulate its network. There is no reason to assume any more spare capacity at the FDI than that generated by the loop fill factors. Otherwise, we will be allowing SBC to recover the costs for terminations at the FDI for loops that are not assumed in LoopCAT. That makes no sense.

The Commission should also strike the entire third paragraph in Section III.C.5.c, "Commission Analysis and Conclusion," on page 118 of the Proposed Order and replace it with the following language:

The Commission adopts the CLEC proposal to modify LoopCAT to assume that the FDI panel will first fill up on the center panel, and then SBC would utilize available terminations on either side of the right or left panel to terminate additional feeder pairs.

SBC assumes that feeder pairs would only be terminated in a central panel. We believe the CLEC recommendation is technically feasible and better serves to utilize SBC's network, thereby creating efficiencies and reduced costs in compliance with the TELRIC methodology.

7. Loop length, cable size and cable gauge modeling

a) Distribution Lengths Over 18,000 Feet

(3) Commission Analysis and Conclusion

Exceptions

The Proposed Order misconstrues the Joint CLEC recommendation on this topic. The question is not whether there are loops over 18,000 feet in a forward-looking network. The question is whether loops with copper ***distribution*** areas over 18,000 feet should be eliminated from the LoopCAT loop sample (see also the heading of this section: "***distribution*** lengths over 18,000 feet"). Clearly, the Proposed Order did not understand this fact, as its conclusion makes clear:

> CLECs are correct that loops over 18,000 feet do not provide an acceptable level of POTS service absent load coils and that DSL services cannot be provided over these loops. TELRIC, however, requires that we assume the existing wire center locations as well as some customers that choose to live in rural areas, where the only possible means of receiving phone service is through loops over 18,000 feet. We cannot ignore this reality. Accordingly, CLECs' adjustment is rejected. (Proposed Order at 121).

The Joint CLECs do not contest the fact that loops can be over 18,000 feet. We contest the fact that a forward-looking loop would have over 18,000 feet in copper distribution cable. Messrs. Pitkin/Turner modified LoopCAT to eliminate over 100,000 loops with distribution lengths of over 18,000 feet. (AT&T Ex. 2.0, pp. 105-108). They did so for the simple reason that such loops would not provide an acceptable level of POTS service absent bad coils. The parties in this case agree – and LoopCAT also assumes – that load coils are not appropriate in a forward-looking network design.

(AT&T Ex. 2.0, p. 105). Thus, in a forward-looking network, SBC would not place copper distribution loops in its network with lengths over 18,000 feet.

Such loops are also incapable of providing forward-looking services such as DSL, and would therefore be served via DLC, thereby shortening the copper distribution portion of the loop. Indeed, the Proposed Order – and SBC itself -- otherwise recognize the fact that in a forward-looking network, loops will be designed in a manner to ensure they provide DSL services. Indeed, on the question of the proper cross-over point for DLC services, the Proposed Order adopts SBC's proposal of a 12,000 foot cutoff for copper distribution (assuming fiber/DLC facilities thereafter). The Proposed Order reasons as follows:

> We also note that the FCC has stated 'the loop design incorporated into a forward-looking economic cost study or model should not impede the provision of advanced services." *In the Matter of Federal-State Joint Board on Universal Service*, CC Docket No. 96-45, Report and Order, FCC 97-157 at paras. 2-2,250 (rel. May 8, 1997).
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> We are not convinced that an efficient carrier building a network today would build a network that supports voice service and only a limited range of advanced services . . . Accordingly, we agree with SBC's proposal to adopt 12kft as the appropriate [copper/fiber] crossover point.

Based on this decision, the Joint CLECs were clearly right to eliminate loops from SBC's loop sample that include <u>copper distribution</u> lengths over 18,000 feet. These loops are not forward-looking for the simple reasons that they cannot provide DSL. Therefore, the Commission should direct the removal from LoopCAT of all loops with copper distribution areas over 18,000 feet. *See also* Indiana Order, p. 44 (directing SBC to remove all copper loops over 18,000 feet from its study).

<u>Proposed Replacement Language</u>

The Commission should strike Section III.C.7.3, "Commission Analysis and Conclusion," on page 121 of the Proposed Order and replace it with the following language:

AT&T's witnesses Messrs. Pitkin/Turner also modified LoopCAT to eliminate over 10,000 loops with distribution lengths of over 18,000 feet. They did so for the simple reason that such loops would not provide an acceptable level of POTS service absent load coils and otherwise could not provide advanced services. The parties in this case agree – and LoopCAT also assumes – that load coils are not appropriate in a forward-looking network design. Thus, we agree with Joint CLECs that in a forward-looking network, SBC would not place loops in its network with copper distribution areas over 18,000 feet. This conclusion is fully consistent with our conclusion to assume a maximum of 12,000 feet of copper in the LoopCAT composite loops. Therefore, we direct the removal from LoopCAT of all loops with copper distribution areas over 18,000 feet.

IV. NON-RECURRING COST STUDIES AND RATE DESIGNS

As the Joint CLECs discuss in the following pages, several areas of the Proposed Order require interpretation and clarification regarding nonrecurring costs and rates. This is not surprising given the number of nonrecurring cost studies presented in this proceeding and the correspondingly significant number of input modifications that are required to bring them closer into compliance with TELRIC costing principles. The Proposed Order requires that by May 17, 2004, SBC Illinois and Staff shall provide the Commission with their respective proposed rates for all elements in this proceeding. The Joint CLECs have also implemented the Proposed Order's analyses and conclusions and have provided the resulting recurring and nonrecurring rates. To the extent that implementation required interpretation by the parties, the Joint CLECs discuss those areas below. The Joint CLECs also take exception to several additional proposed analyses and conclusions, also set forth below.

The starting point for the Joint CLECs' nonrecurring cost study revisions was the nonrecurring cost studies submitted by SBC on March 23, 2004. These cost studies

represented the final position that SBC asserted for the nonrecurring costs in this proceeding.[67] The Joint CLECs have implemented labor rates based on the Proposed Order's requirements. Further, for each labor time, probability, or structure modification made to the cost studies, Joint CLECs have provided an explicit reference in the cost study to the page in the Proposed Order identifying the required modification.

A. General Issues

2. Cost Causation and Characterization of costs

d) Commission Analysis and Conclusion

Exception

The Proposed Order states at page 137: "The question, therefore, is whether the costs of an asset are incurred over time." The Joint CLECs take exception to this language because, as currently written, it is incomplete or possibly inaccurate and may inadvertently reverse the Commission's previous findings in the *TELRIC II Order*.[68]

This language could inappropriately be interpreted to lead to inaccurate results. For example, the capital costs associated with acquiring assets are virtually always large one-time outlays. This is certainly true for buildings, but is also true for many other components of the network, such as digital loop carrier ("DLC") systems and the like. Under the Proposed Order's language, as it is currently phrased, it would be permissible to include the cost of acquiring assets, such as buildings, DLC systems, and other network component outlays, in non-recurring charges – a result that is not

[67] Specifically, the ALJs rejected the introduction of SBC Illinois' revised labor rates. SBC Illinois revised its filing to remove these labor rates. It was these cost studies with the revised labor rates removed that formed the starting point for the Joint CLECs implementation of the Proposed Order.

[68] Docket 98-0396, Order issued October 16, 2001 (*"TELRIC II Order"*).

advocated by any party and would be absurd on its face. Such investments are virtually always recovered through recurring charges.

The language in the Proposed Order offers little guidance, and may unintentionally dilute the directives of the Commission's *TELRIC II Order* as it relates to computer processing costs: "These costs are *not a direct cost* to a CLEC ordering a UNE. Rather, computer processing costs are costs *common* to all network elements, and are more appropriately recovered through recurring charges." *TELRIC II Order* at 41 (emphasis added). The Commission's language in the *TELRIC II Order* is more useful and accurate; it is also echoed by the language of the *Virginia Arbitration Order* on this issue.

Additionally, the Proposed Order at page 137 cites the FCC's *Local Competition Order:* "'[c]osts must be attributed on a cost-causative basis.'" This principle is critically important with respect to the issue of fallout, and the question of whether or not CLECs should pay for fallout. As is discussed in more detail below, the record shows that virtually all fallout in the service ordering process is caused by errors in SBC's legacy databases. Given that CLECs have no control over these databases, they are not the cause of this fallout. This direct application of the cost causation principle is consistent with this Commission's previous findings in the *TELRIC II Order* at page 40: "Ameritech's cost study also makes *no adjustment* for Ameritech cleaning up and then maintaining its databases to eliminate fallout caused by database contamination." (Emphasis added.)

Given that this type of fallout is caused not by CLECs, the Commission in the *TELRIC II Order* found that these costs should not be included in the nonrecurring

charges. The same reasoning is found in the FCC's *Virginia Arbitration Order* at paragraph 592**:** "We also disagree with Verizon that costs associated with database errors are appropriately recovered from competitive LECs through NRCs." The application of the cost causation principle and the extent to which the Proposed Order has deviated from this principle and the Commission's previous findings (as well as the FCC's) is discussed in more detail below in the Joint CLECs' exceptions on occurrence probabilities.

Proposed Replacement Language

1. The following text be added to the first paragraph of Section IV.A.2.d on Page 137, after the existing last sentence:

If the answer to this question is yes, then the costs are always recurring costs and should be recovered through recurring charges. However, if the answer is no, then the question becomes, are the costs *direct* costs to one, and only one carrier, or are the costs *common* to more than one carrier, for example, because the facility is shared at one point in time, such as with a building, or over time, such as with loop facilities that may be used by various carriers over its economic life. If the costs are direct costs, then they should be recovered through non-recurring charges and if they are common costs, then they should be recovered through recurring charges.

2. A new sentence should be inserted in the first paragraph of Section IV.A.2.d, as shown below:

> The FCC's TELRIC pricing rules incorporate cost-causation principles. The FCC, in its *First Report and Order*, stated that "[c]osts must be attributed on a cost-causative basis." *First Report and Order* at ¶ 691. In the context of the non-recurring cost examination this means, among other things, that the costs of cleaning up and maintaining database should not be recovered from CLECs through non-recurring charges.

B. Service Order Nonrecurring Cost Studies

1. Identification of tasks

c) Commission Analysis and Conclusion

Exception

The Joint CLECs argued that the validation and verification activities identified in SBC's studies are excessive and result in inefficient Operational Support Systems ("OSS") and, therefore, should be removed from SBC's service ordering and provisioning NRC studies. The Proposed Order both agreed with and objected to this position in part, noting the following:

> We agree with SBC, however, that validation and verification activities are common-sense business practices to ensure that orders are processed as accurately as possible. Simple UNE orders are electronically edited for errors and returned to the CLEC for correction, with no manual intervention by SBC at all. Manual intervention is more likely to occur on complex UNE orders. These activities appear reasonable in light of the distinctions between simple and complex orders and also the end-users' need for correct orders to be placed and processed. This decision applies to all NRC validation and verification activities. (Proposed Order, p. 148)

Specifically, the Proposed Order agrees with SBC that "validation and verification activities are common-sense business practices" but also notes that "Simple UNE orders are electronically edited for errors and returned to the CLEC for correction, with no manual intervention by SBC at all." In short, the combination of these two points reveals that while the Proposed Order recognizes the need for validation and verification activities to occur, the Proposed Order equally recognizes that for simple orders types and other simple element provisioning nonrecurring tasks (note the last sentence in the Proposed Order language), these tasks are performed electronically "with no manual intervention by SBC at all." Based on this Proposed Order language, it appears that costs for validation and verification activities for complex elements and order types are to remain in the nonrecurring cost studies.

While Joint CLECs do not agree with the Proposed Order's conclusion on Identification of Tasks in full, the only exception the Joint CLECs take to this section is

based on their concern that the "validation and verification" tasks in the nonrecurring cost studies for simple elements and orders may present an opportunity for confusion regarding the specific activity descriptions to which this modification applies in SBC Illinois's cost studies. To rectify this potential source of confusion, Joint CLECs propose language that expressly identifies the locations in the nonrecurring cost studies that are "validation and verification" functions.

Additionally, the Joint CLECs argued that SBC's log-in and administrative close-out times should be reduced, in some cases to zero and in some cases to a time less than that proposed by SBC. While the Joint CLECs disagree that the one minute the Proposed Order adopts at page 148 is appropriate for those times that should be set at zero, the Joint CLECs agree that, on average, reducing all log-in and administrative close-out times to one minute will bring SBC's nonrecurring charges for these tasks closer to the realm of reasonableness. The Joint CLECs' decision not to take exception to this conclusion is, of course, conditioned on the understanding that the Proposed Order reduces all log-in and administrative close-out times for all SBC NRC cost studies filed in this proceeding to one minute. While the Joint CLECs are quite certain that is what the Proposed Order intends, the Joint CLECs do not want the fact that this conclusion happens to appear in the Service Order Nonrecurring Cost Study section of the Proposed Order but is intended to apply to all SBC nonrecurring cost studies to cause any confusion. Moreover, the language that the Proposed Order uses, referring to "log in and administrative closeout" functions, provides the opportunity for some confusion as to what specific activity descriptions must be modified in SBC Illinois' nonrecurring cost studies. To rectify this potential source of confusion, Joint CLECs

propose language that expressly identifies those locations in SBC's nonrecurring cost studies that are "log in and administrative closeout" functions.

Proposed Replacement Language

1. The following sentence and table should be added to Section IV.B.1.c, after the last sentence in the first full paragraph on page 148 of the Proposed Order (alternatively, the text could reference an appendix to the Order which would contain the table):

To avoid confusion as to where these modifications should occur, we direct SBC to modify its nonrecurring cost studies consistent with the following, which identifies the nonrecurring cost study, the relevant tabs in the cost studies, and the relevant cells in the nonrecurring cost studies:

Nonrecurring Cost Study	**Tab**	**Cell**
Combination ULS-Ports_N_WhslUNE_IL_02-05_10-31-02_01-13-04	TAB 8.6	H20
Combination ULS-Ports_N_WhslUNE_IL_02-05_10-31-02_01-13-04	TAB 8.6	H29
Combination ULS-Ports_N_WhslUNE_IL_02-05_10-31-02_01-13-04	TAB 8.6	H64
SO EEL_N_Whsl_IL_03-06_Oct 2002_rev	Tab 8.5	H17
SO EEL_N_Whsl_IL_03-06_Oct 2002_rev	Tab 8.5	H18
SO EEL_N_Whsl_IL_03-06_Oct 2002_rev	Tab 8.5	H19
SO EEL_N_Whsl_IL_03-06_Oct 2002_rev	Tab 8.5	H21
SO EEL_N_Whsl_IL_03-06_Oct 2002_rev	Tab 8.7	H17
SO EEL_N_Whsl_IL_03-06_Oct 2002_rev	Tab 8.7	H18
SO EEL_N_Whsl_IL_03-06_Oct 2002_rev	Tab 8.7	H21
SO EEL_N_Whsl_IL_03-06_Oct 2002_rev	Tab 8.9	H17
SO EEL_N_Whsl_IL_03-06_Oct 2002_rev	Tab 8.9	H18
SO EEL_N_Whsl_IL_03-06_Oct 2002_rev	Tab 8.9	H20
SO EEL_N_Whsl_IL_03-06_Oct 2002_rev	Tab 8.9	H21
SO EEL_N_Whsl_IL_03-06_Oct 2002_rev	Tab 8.11	H17
SO EEL_N_Whsl_IL_03-06_Oct 2002_rev	Tab 8.11	H18
SO EEL_N_Whsl_IL_03-06_Oct 2002_rev	Tab 8.11	H21
SO EEL_N_Whsl_IL_03-06_Oct 2002_rev	Tab 8.13	H17
SO EEL_N_Whsl_IL_03-06_Oct 2002_rev	Tab 8.13	H18
SO Existing UNE-P_N_Whsl_IL_02-05_Oct 2002_rev	TAB 8.10	H13

Nonrecurring Cost Study	Tab	Cell
SO Existing UNE-P_N_Whsl_IL_02-05_Oct 2002_rev	TAB 8.10	H14
SO Existing UNE-P_N_Whsl_IL_02-05_Oct 2002_rev	TAB 8.11	H13
SO Existing UNE-P_N_Whsl_IL_02-05_Oct 2002_rev	TAB 8.11	H14
SO Existing UNE-P_N_Whsl_IL_02-05_Oct 2002_rev	TAB 8.16	H13
SO Existing UNE-P_N_Whsl_IL_02-05_Oct 2002_rev	Tab 8.18	H13
SO Existing UNE-P_N_Whsl_IL_02-05_Oct 2002_rev	TAB 8.28	J15
SO Existing UNE-P_N_Whsl_IL_02-05_Oct 2002_rev	TAB 8.28	J22
SO Existing UNE-P_N_Whsl_IL_02-05_Oct 2002_rev	TAB 8.29	H24
SO Existing UNE-P_N_Whsl_IL_02-05_Oct 2002_rev	TAB 8.29	H26
SO Existing UNE-P_N_Whsl_IL_02-05_Oct 2002_rev	TAB 8.29	H37
SO Loops_N_Whsl_IL_02-05_Oct 2002_rev	TAB 8.6	H14
SO Loops_N_Whsl_IL_02-05_Oct 2002_rev	TAB 8.6	H15
SO Loops_N_Whsl_IL_02-05_Oct 2002_rev	TAB 8.6	H16
SO Loops_N_Whsl_IL_02-05_Oct 2002_rev	TAB 8.6	H17
SO Loops_N_Whsl_IL_02-05_Oct 2002_rev	TAB 8.7	H14
SO Loops_N_Whsl_IL_02-05_Oct 2002_rev	TAB 8.7	H15
SO Loops_N_Whsl_IL_02-05_Oct 2002_rev	TAB 8.7	H16
SO Loops_N_Whsl_IL_02-05_Oct 2002_rev	TAB 8.7	H17
SO Loops_N_Whsl_IL_02-05_Oct 2002_rev	TAB 8.8	H14
SO Loops_N_Whsl_IL_02-05_Oct 2002_rev	TAB 8.8	H15
SO Loops_N_Whsl_IL_02-05_Oct 2002_rev	TAB 8.8	H16
SO Loops_N_Whsl_IL_02-05_Oct 2002_rev	TAB 8.8	H17
SO Loops_N_Whsl_IL_02-05_Oct 2002_rev	TAB 8.10	H14
SO Loops_N_Whsl_IL_02-05_Oct 2002_rev	TAB 8.11	H14
SO New Combo UNE-P_N_Whsl_IL_02-05_Oct 2002_rev	TAB 8.8	H13
SO New Combo UNE-P_N_Whsl_IL_02-05_Oct 2002_rev	TAB 8.8	H14
SO New Combo UNE-P_N_Whsl_IL_02-05_Oct 2002_rev	TAB 8.12	H13
SO New Combo UNE-P_N_Whsl_IL_02-05_Oct 2002_rev	TAB 8.12	H14
SO New Combo UNE-P_N_Whsl_IL_02-05_Oct 2002_rev	Tab 8.14	H13
SO New Combo UNE-P_N_Whsl_IL_02-05_Oct 2002_rev	TAB 8.24	J15
SO New Combo UNE-P_N_Whsl_IL_02-05_Oct 2002_rev	TAB 8.24	J22
SO ULS Ports_N_Whsl_IL_02-05_Oct 2002_rev	TAB 8.7	H14
SO ULS Ports_N_Whsl_IL_02-05_Oct 2002_rev	TAB 8.7	H19

2. The last sentence of the third full paragraph on page 148 of the Proposed Order, in Section IV.B.1.c., should be stricken and replaced with the following (alternatively, the text can refer to an appendix that would contain the table):

Accordingly, we will set all the log in and administrative close out and selection of order times to one minute for all log in and administrative close out and selection of order activities included in each and every one of the nonrecurring cost studies SBC has submitted in this proceeding. We hereby direct SBC to modify the following nonrecurring cost studies, tabs and cells consistent with our conclusions herein:

Nonrecurring Cost Study	**Worksheet**	**Cell**
Combination ULS-Ports_N_WhslUNE_IL_02-05_10-31-02_01-13-04	TAB 8.4	E12
Combination ULS-Ports_N_WhslUNE_IL_02-05_10-31-02_01-13-04	TAB 8.4	E13
Combination ULS-Ports_N_WhslUNE_IL_02-05_10-31-02_01-13-04	TAB 8.4	E14
Combination ULS-Ports_N_WhslUNE_IL_02-05_10-31-02_01-13-04	TAB 8.4	E21
Combination ULS-Ports_N_WhslUNE_IL_02-05_10-31-02_01-13-04	TAB 8.4	E24
Combination ULS-Ports_N_WhslUNE_IL_02-05_10-31-02_01-13-04	TAB 8.4	E25
Combination ULS-Ports_N_WhslUNE_IL_02-05_10-31-02_01-13-04	TAB 8.4	E26
Combination ULS-Ports_N_WhslUNE_IL_02-05_10-31-02_01-13-04	TAB 8.4	E32
Combination ULS-Ports_N_WhslUNE_IL_02-05_10-31-02_01-13-04	TAB 8.4	E37
Combination ULS-Ports_N_WhslUNE_IL_02-05_10-31-02_01-13-04	TAB 8.4	E40
Combination ULS-Ports_N_WhslUNE_IL_02-05_10-31-02_01-13-04	TAB 8.4	E57
Combination ULS-Ports_N_WhslUNE_IL_02-05_10-31-02_01-13-04	TAB 8.4	E58
Combination ULS-Ports_N_WhslUNE_IL_02-05_10-31-02_01-13-04	TAB 8.4	E59
Combination ULS-Ports_N_WhslUNE_IL_02-05_10-31-02_01-13-04	TAB 8.4	E64
Combination ULS-Ports_N_WhslUNE_IL_02-05_10-31-02_01-13-04	TAB 8.4	E67
Combination ULS-Ports_N_WhslUNE_IL_02-05_10-31-02_01-13-04	TAB 8.4	E68

Nonrecurring Cost Study	Worksheet	Cell
Combination ULS-Ports_N_WhslUNE_IL_02-05_10-31-02_01-13-04	TAB 8.4	E69
Combination ULS-Ports_N_WhslUNE_IL_02-05_10-31-02_01-13-04	TAB 8.4	E73
Combination ULS-Ports_N_WhslUNE_IL_02-05_10-31-02_01-13-04	TAB 8.4	E78
Combination ULS-Ports_N_WhslUNE_IL_02-05_10-31-02_01-13-04	TAB 8.4	E81
Combination ULS-Ports_N_WhslUNE_IL_02-05_10-31-02_01-13-04	TAB 8.4	E98
Combination ULS-Ports_N_WhslUNE_IL_02-05_10-31-02_01-13-04	TAB 8.4	E104
Combination ULS-Ports_N_WhslUNE_IL_02-05_10-31-02_01-13-04	TAB 8.4	E107
Combination ULS-Ports_N_WhslUNE_IL_02-05_10-31-02_01-13-04	TAB 8.4	E108
Combination ULS-Ports_N_WhslUNE_IL_02-05_10-31-02_01-13-04	TAB 8.4	E112
Combination ULS-Ports_N_WhslUNE_IL_02-05_10-31-02_01-13-04	TAB 8.5	E12
Combination ULS-Ports_N_WhslUNE_IL_02-05_10-31-02_01-13-04	TAB 8.5	E13
Combination ULS-Ports_N_WhslUNE_IL_02-05_10-31-02_01-13-04	TAB 8.5	E14
Combination ULS-Ports_N_WhslUNE_IL_02-05_10-31-02_01-13-04	TAB 8.5	E24
Combination ULS-Ports_N_WhslUNE_IL_02-05_10-31-02_01-13-04	TAB 8.5	E27
Combination ULS-Ports_N_WhslUNE_IL_02-05_10-31-02_01-13-04	TAB 8.5	E28
Combination ULS-Ports_N_WhslUNE_IL_02-05_10-31-02_01-13-04	TAB 8.5	E29
Combination ULS-Ports_N_WhslUNE_IL_02-05_10-31-02_01-13-04	TAB 8.5	E38
Combination ULS-Ports_N_WhslUNE_IL_02-05_10-31-02_01-13-04	TAB 8.5	E52
Combination ULS-Ports_N_WhslUNE_IL_02-05_10-31-02_01-13-04	TAB 8.5	E53
Combination ULS-Ports_N_WhslUNE_IL_02-05_10-31-02_01-13-04	TAB 8.5	E54
Combination ULS-Ports_N_WhslUNE_IL_02-05_10-31-02_01-13-04	TAB 8.5	E65
Combination ULS-Ports_N_WhslUNE_IL_02-05_10-31-02_01-13-04	TAB 8.5	E68

Nonrecurring Cost Study	Worksheet	Cell
Combination ULS-Ports_N_WhslUNE_IL_02-05_10-31-02_01-13-04	TAB 8.5	E69
Combination ULS-Ports_N_WhslUNE_IL_02-05_10-31-02_01-13-04	TAB 8.5	E70
Combination ULS-Ports_N_WhslUNE_IL_02-05_10-31-02_01-13-04	TAB 8.5	E74
Combination ULS-Ports_N_WhslUNE_IL_02-05_10-31-02_01-13-04	TAB 8.5	E89
Combination ULS-Ports_N_WhslUNE_IL_02-05_10-31-02_01-13-04	TAB 8.5	E90
Combination ULS-Ports_N_WhslUNE_IL_02-05_10-31-02_01-13-04	TAB 8.5	E91
Combination ULS-Ports_N_WhslUNE_IL_02-05_10-31-02_01-13-04	TAB 8.5	E101
Combination ULS-Ports_N_WhslUNE_IL_02-05_10-31-02_01-13-04	TAB 8.5	E104
Combination ULS-Ports_N_WhslUNE_IL_02-05_10-31-02_01-13-04	TAB 8.5	E105
Combination ULS-Ports_N_WhslUNE_IL_02-05_10-31-02_01-13-04	TAB 8.5	E106
Combination ULS-Ports_N_WhslUNE_IL_02-05_10-31-02_01-13-04	TAB 8.5	E114
Combination ULS-Ports_N_WhslUNE_IL_02-05_10-31-02_01-13-04	TAB 8.5	E127
Combination ULS-Ports_N_WhslUNE_IL_02-05_10-31-02_01-13-04	TAB 8.5	E128
Combination ULS-Ports_N_WhslUNE_IL_02-05_10-31-02_01-13-04	TAB 8.5	E129
Combination ULS-Ports_N_WhslUNE_IL_02-05_10-31-02_01-13-04	TAB 8.5	E140
Combination ULS-Ports_N_WhslUNE_IL_02-05_10-31-02_01-13-04	TAB 8.6	E14
Combination ULS-Ports_N_WhslUNE_IL_02-05_10-31-02_01-13-04	TAB 8.6	E28
Combination ULS-Ports_N_WhslUNE_IL_02-05_10-31-02_01-13-04	TAB 8.6	E63
Custom Routing_N_WhslUNE_IL_02-05_10-31-02_TFA#IL - 12-12-03	TAB 8.3.1	E14
Custom Routing_N_WhslUNE_IL_02-05_10-31-02_TFA#IL - 12-12-03	TAB 8.3.1	E17
Custom Routing_N_WhslUNE_IL_02-05_10-31-02_TFA#IL - 12-12-03	TAB 8.3.2	E14
Custom Routing_N_WhslUNE_IL_02-05_10-31-02_TFA#IL - 12-12-03	TAB 8.3.2	E17

Nonrecurring Cost Study	Worksheet	Cell
Custom Routing_N_WhslUNE_IL_02-05_10-31-02_TFA#IL - 12-12-03	TAB 8.3.2	E20
Custom Routing_N_WhslUNE_IL_02-05_10-31-02_TFA#IL - 12-12-03	TAB 8.3.2	E23
Custom Routing_N_WhslUNE_IL_02-05_10-31-02_TFA#IL - 12-12-03	TAB 8.3.3	E14
Custom Routing_N_WhslUNE_IL_02-05_10-31-02_TFA#IL - 12-12-03	TAB 8.3.3	E17
Custom Routing_N_WhslUNE_IL_02-05_10-31-02_TFA#IL - 12-12-03	TAB 8.3.3	E20
Custom Routing_N_WhslUNE_IL_02-05_10-31-02_TFA#IL - 12-12-03	TAB 8.3.3	E23
Custom Routing_N_WhslUNE_IL_02-05_10-31-02_TFA#IL - 12-12-03	TAB 8.3.4	E14
Custom Routing_N_WhslUNE_IL_02-05_10-31-02_TFA#IL - 12-12-03	TAB 8.3.4	E17
Custom Routing_N_WhslUNE_IL_02-05_10-31-02_TFA#IL - 12-12-03	TAB 8.3.5	E14
Custom Routing_N_WhslUNE_IL_02-05_10-31-02_TFA#IL - 12-12-03	TAB 8.3.5	E17
Custom Routing_N_WhslUNE_IL_02-05_10-31-02_TFA#IL - 12-12-03	TAB 8.3.5	E20
Custom Routing_N_WhslUNE_IL_02-05_10-31-02_TFA#IL - 12-12-03	TAB 8.3.5	E23
Custom Routing_N_WhslUNE_IL_02-05_10-31-02_TFA#IL - 12-12-03	TAB 8.3.6	E14
Custom Routing_N_WhslUNE_IL_02-05_10-31-02_TFA#IL - 12-12-03	TAB 8.3.6	E17
Custom Routing_N_WhslUNE_IL_02-05_10-31-02_TFA#IL - 12-12-03	TAB 8.3.6	E20
Custom Routing_N_WhslUNE_IL_02-05_10-31-02_TFA#IL - 12-12-03	TAB 8.3.6	E23
Custom Routing_N_WhslUNE_IL_02-05_10-31-02_TFA#IL - 12-12-03	TAB 8.3.7	E14
Custom Routing_N_WhslUNE_IL_02-05_10-31-02_TFA#IL - 12-12-03	TAB 8.3.7	E17
Custom Routing_N_WhslUNE_IL_02-05_10-31-02_TFA#IL - 12-12-03	TAB 8.3.8	E14
Custom Routing_N_WhslUNE_IL_02-05_10-31-02_TFA#IL - 12-12-03	TAB 8.3.8	E17
Custom Routing_N_WhslUNE_IL_02-05_10-31-02_TFA#IL - 12-12-03	TAB 8.3.8	E20
Custom Routing_N_WhslUNE_IL_02-05_10-31-02_TFA#IL - 12-12-03	TAB 8.3.8	E23

Nonrecurring Cost Study	Worksheet	Cell
Custom Routing_N_WhslUNE_IL_02-05_10-31-02_TFA#IL - 12-12-03	TAB 8.3.9	E14
Custom Routing_N_WhslUNE_IL_02-05_10-31-02_TFA#IL - 12-12-03	TAB 8.3.9	E17
Custom Routing_N_WhslUNE_IL_02-05_10-31-02_TFA#IL - 12-12-03	TAB 8.3.9	E20
Custom Routing_N_WhslUNE_IL_02-05_10-31-02_TFA#IL - 12-12-03	TAB 8.3.9	E23
EEL_N_WhslUNE_IL_02-05_Dec02_rev	TAB 8.6-FOG	E51
EEL_N_WhslUNE_IL_02-05_Dec02_rev	TAB 8.6-FOG	F51
EEL_N_WhslUNE_IL_02-05_Dec02_rev	TAB 8.6-FOG	E52
EEL_N_WhslUNE_IL_02-05_Dec02_rev	TAB 8.6-FOG	F52
EEL_N_WhslUNE_IL_02-05_Dec02_rev	TAB 8.6-FOG	E53
EEL_N_WhslUNE_IL_02-05_Dec02_rev	TAB 8.6-FOG	F53
EEL_N_WhslUNE_IL_02-05_Dec02_rev	TAB 8.6-FOG	E54
EEL_N_WhslUNE_IL_02-05_Dec02_rev	TAB 8.6-FOG	F54
EEL_N_WhslUNE_IL_02-05_Dec02_rev	TAB 8.6-FOG	E55
EEL_N_WhslUNE_IL_02-05_Dec02_rev	TAB 8.6-FOG	F55
EEL_N_WhslUNE_IL_02-05_Dec02_rev	TAB 8.6-FOG	E56
EEL_N_WhslUNE_IL_02-05_Dec02_rev	TAB 8.6-FOG	F56
EEL_N_WhslUNE_IL_02-05_Dec02_rev	TAB 8.6-FOG	E122
EEL_N_WhslUNE_IL_02-05_Dec02_rev	TAB 8.6-FOG	F122
EEL_N_WhslUNE_IL_02-05_Dec02_rev	TAB 8.6-FOG	E123
EEL_N_WhslUNE_IL_02-05_Dec02_rev	TAB 8.6-FOG	F123
EEL_N_WhslUNE_IL_02-05_Dec02_rev	TAB 8.6-FOG	E124
EEL_N_WhslUNE_IL_02-05_Dec02_rev	TAB 8.6-FOG	F124
EEL_N_WhslUNE_IL_02-05_Dec02_rev	TAB 8.6-FOG	E125
EEL_N_WhslUNE_IL_02-05_Dec02_rev	TAB 8.6-FOG	F125
EEL_N_WhslUNE_IL_02-05_Dec02_rev	TAB 8.6-FOG	E126
EEL_N_WhslUNE_IL_02-05_Dec02_rev	TAB 8.6-FOG	F126
EEL_N_WhslUNE_IL_02-05_Dec02_rev	TAB 8.6-FOG	E127
EEL_N_WhslUNE_IL_02-05_Dec02_rev	TAB 8.6-FOG	F127
EEL_N_WhslUNE_IL_02-05_Dec02_rev	TAB 8.6-FOG	E176
EEL_N_WhslUNE_IL_02-05_Dec02_rev	TAB 8.6-FOG	F176
EEL_N_WhslUNE_IL_02-05_Dec02_rev	TAB 8.6-FOG	E177
EEL_N_WhslUNE_IL_02-05_Dec02_rev	TAB 8.6-FOG	F177
EEL_N_WhslUNE_IL_02-05_Dec02_rev	TAB 8.6-FOG	E178
EEL_N_WhslUNE_IL_02-05_Dec02_rev	TAB 8.6-FOG	F178
EEL_N_WhslUNE_IL_02-05_Dec02_rev	TAB 8.6-FOG	E179
EEL_N_WhslUNE_IL_02-05_Dec02_rev	TAB 8.6-FOG	F179
EEL_N_WhslUNE_IL_02-05_Dec02_rev	TAB 8.6-FOG	E180
EEL_N_WhslUNE_IL_02-05_Dec02_rev	TAB 8.6-FOG	F180
EEL_N_WhslUNE_IL_02-05_Dec02_rev	TAB 8.6-FOG	E181

Nonrecurring Cost Study	Worksheet	Cell
EEL_N_WhslUNE_IL_02-05_Dec02_rev	TAB 8.6-FOG	F181
EEL_N_WhslUNE_IL_02-05_Dec02_rev	TAB 8.7-SSC	E20
EEL_N_WhslUNE_IL_02-05_Dec02_rev	TAB 8.7-SSC	F20
EEL_N_WhslUNE_IL_02-05_Dec02_rev	TAB 8.7-SSC	E21
EEL_N_WhslUNE_IL_02-05_Dec02_rev	TAB 8.7-SSC	F21
EEL_N_WhslUNE_IL_02-05_Dec02_rev	TAB 8.7-SSC	E22
EEL_N_WhslUNE_IL_02-05_Dec02_rev	TAB 8.7-SSC	F22
EEL_N_WhslUNE_IL_02-05_Dec02_rev	TAB 8.7-SSC	E23
EEL_N_WhslUNE_IL_02-05_Dec02_rev	TAB 8.7-SSC	F23
EEL_N_WhslUNE_IL_02-05_Dec02_rev	TAB 8.7-SSC	E24
EEL_N_WhslUNE_IL_02-05_Dec02_rev	TAB 8.7-SSC	F24
EEL_N_WhslUNE_IL_02-05_Dec02_rev	TAB 8.7-SSC	E25
EEL_N_WhslUNE_IL_02-05_Dec02_rev	TAB 8.7-SSC	F25
EEL_N_WhslUNE_IL_02-05_Dec02_rev	TAB 8.8-DOG	E22
EEL_N_WhslUNE_IL_02-05_Dec02_rev	TAB 8.8-DOG	F22
EEL_N_WhslUNE_IL_02-05_Dec02_rev	TAB 8.8-DOG	E23
EEL_N_WhslUNE_IL_02-05_Dec02_rev	TAB 8.8-DOG	F23
EEL_N_WhslUNE_IL_02-05_Dec02_rev	TAB 8.8-DOG	E24
EEL_N_WhslUNE_IL_02-05_Dec02_rev	TAB 8.8-DOG	F24
EEL_N_WhslUNE_IL_02-05_Dec02_rev	TAB 8.8-DOG	E25
EEL_N_WhslUNE_IL_02-05_Dec02_rev	TAB 8.8-DOG	F25
EEL_N_WhslUNE_IL_02-05_Dec02_rev	TAB 8.8-DOG	E26
EEL_N_WhslUNE_IL_02-05_Dec02_rev	TAB 8.8-DOG	F26
EEL_N_WhslUNE_IL_02-05_Dec02_rev	TAB 8.8-DOG	E124
EEL_N_WhslUNE_IL_02-05_Dec02_rev	TAB 8.8-DOG	F124
EEL_N_WhslUNE_IL_02-05_Dec02_rev	TAB 8.8-DOG	E125
EEL_N_WhslUNE_IL_02-05_Dec02_rev	TAB 8.8-DOG	F125
EEL_N_WhslUNE_IL_02-05_Dec02_rev	TAB 8.8-DOG	E126
EEL_N_WhslUNE_IL_02-05_Dec02_rev	TAB 8.8-DOG	F126
EEL_N_WhslUNE_IL_02-05_Dec02_rev	TAB 8.8-DOG	E127
EEL_N_WhslUNE_IL_02-05_Dec02_rev	TAB 8.8-DOG	F127
EEL_N_WhslUNE_IL_02-05_Dec02_rev	TAB 8.8-DOG	E128
EEL_N_WhslUNE_IL_02-05_Dec02_rev	TAB 8.8-DOG	F128
Loops_N_WhslUNE_IL_02-05_Dec02_rev	TAB 8.3-CP&M-DOG	E22
Loops_N_WhslUNE_IL_02-05_Dec02_rev	TAB 8.3-CP&M-DOG	F22
Loops_N_WhslUNE_IL_02-05_Dec02_rev	TAB 8.3-CP&M-DOG	E23
Loops_N_WhslUNE_IL_02-05_Dec02_rev	TAB 8.3-CP&M-DOG	F23
Loops_N_WhslUNE_IL_02-05_Dec02_rev	TAB 8.3-CP&M-DOG	E24

Nonrecurring Cost Study	Worksheet	Cell
Loops_N_WhslUNE_IL_02-05_Dec02_rev	TAB 8.3-CP&M-DOG	F24
Loops_N_WhslUNE_IL_02-05_Dec02_rev	TAB 8.3-CP&M-DOG	E127
Loops_N_WhslUNE_IL_02-05_Dec02_rev	TAB 8.3-CP&M-DOG	F127
Loops_N_WhslUNE_IL_02-05_Dec02_rev	TAB 8.3-CP&M-DOG	E128
Loops_N_WhslUNE_IL_02-05_Dec02_rev	TAB 8.3-CP&M-DOG	F128
Loops_N_WhslUNE_IL_02-05_Dec02_rev	TAB 8.3-CP&M-DOG	E129
Loops_N_WhslUNE_IL_02-05_Dec02_rev	TAB 8.3-CP&M-DOG	F129
Loops_N_WhslUNE_IL_02-05_Dec02_rev	TAB 8.5-FOG	E47
Loops_N_WhslUNE_IL_02-05_Dec02_rev	TAB 8.5-FOG	F47
Loops_N_WhslUNE_IL_02-05_Dec02_rev	TAB 8.5-FOG	E48
Loops_N_WhslUNE_IL_02-05_Dec02_rev	TAB 8.5-FOG	F48
Loops_N_WhslUNE_IL_02-05_Dec02_rev	TAB 8.5-FOG	E49
Loops_N_WhslUNE_IL_02-05_Dec02_rev	TAB 8.5-FOG	F49
Loops_N_WhslUNE_IL_02-05_Dec02_rev	TAB 8.5-FOG	F50
Loops_N_WhslUNE_IL_02-05_Dec02_rev	TAB 8.5-FOG	F50
Loops_N_WhslUNE_IL_02-05_Dec02_rev	TAB 8.5-FOG	E102
Loops_N_WhslUNE_IL_02-05_Dec02_rev	TAB 8.5-FOG	F102
Loops_N_WhslUNE_IL_02-05_Dec02_rev	TAB 8.5-FOG	E103
Loops_N_WhslUNE_IL_02-05_Dec02_rev	TAB 8.5-FOG	F103
Loops_N_WhslUNE_IL_02-05_Dec02_rev	TAB 8.5-FOG	E104
Loops_N_WhslUNE_IL_02-05_Dec02_rev	TAB 8.5-FOG	F104
Loops_N_WhslUNE_IL_02-05_Dec02_rev	TAB 8.5-FOG	E105
Loops_N_WhslUNE_IL_02-05_Dec02_rev	TAB 8.5-FOG	F105
Loops_N_WhslUNE_IL_02-05_Dec02_rev	TAB 8.5-FOG	E151
Loops_N_WhslUNE_IL_02-05_Dec02_rev	TAB 8.5-FOG	F151
Loops_N_WhslUNE_IL_02-05_Dec02_rev	TAB 8.5-FOG	E152
Loops_N_WhslUNE_IL_02-05_Dec02_rev	TAB 8.5-FOG	F152
Loops_N_WhslUNE_IL_02-05_Dec02_rev	TAB 8.5-FOG	E153
Loops_N_WhslUNE_IL_02-05_Dec02_rev	TAB 8.5-FOG	F153
Loops_N_WhslUNE_IL_02-05_Dec02_rev	TAB 8.5-FOG	E154
Loops_N_WhslUNE_IL_02-05_Dec02_rev	TAB 8.5-FOG	F154
Loops_N_WhslUNE_IL_02-05_Dec02_rev	TAB 8.7-SSC	E20
Loops_N_WhslUNE_IL_02-05_Dec02_rev	TAB 8.7-SSC	F20
Loops_N_WhslUNE_IL_02-05_Dec02_rev	TAB 8.7-SSC	E21
Loops_N_WhslUNE_IL_02-05_Dec02_rev	TAB 8.7-SSC	F21
Loops_N_WhslUNE_IL_02-05_Dec02_rev	TAB 8.7-SSC	E114
Loops_N_WhslUNE_IL_02-05_Dec02_rev	TAB 8.7-SSC	F114

Nonrecurring Cost Study	Worksheet	Cell
Loops_N_WhslUNE_IL_02-05_Dec02_rev	TAB 8.7-SSC	E115
Loops_N_WhslUNE_IL_02-05_Dec02_rev	TAB 8.7-SSC	F115
Loops_N_WhslUNE_IL_02-05_Dec02_rev	TAB 8.7-SSC	E156
Loops_N_WhslUNE_IL_02-05_Dec02_rev	TAB 8.7-SSC	F156
Loops_N_WhslUNE_IL_02-05_Dec02_rev	TAB 8.7-SSC	E157
Loops_N_WhslUNE_IL_02-05_Dec02_rev	TAB 8.7-SSC	F157
SO EEL_N_Whsl_IL_03-06_Oct 2002_rev	Tab 8.5	G20
SO EEL_N_Whsl_IL_03-06_Oct 2002_rev	Tab 8.5	G24
SO EEL_N_Whsl_IL_03-06_Oct 2002_rev	Tab 8.6	G16
SO EEL_N_Whsl_IL_03-06_Oct 2002_rev	Tab 8.6	G17
SO EEL_N_Whsl_IL_03-06_Oct 2002_rev	Tab 8.6	G21
SO EEL_N_Whsl_IL_03-06_Oct 2002_rev	Tab 8.7	G19
SO EEL_N_Whsl_IL_03-06_Oct 2002_rev	Tab 8.7	G20
SO EEL_N_Whsl_IL_03-06_Oct 2002_rev	Tab 8.7	G26
SO EEL_N_Whsl_IL_03-06_Oct 2002_rev	Tab 8.8	G16
SO EEL_N_Whsl_IL_03-06_Oct 2002_rev	Tab 8.8	G17
SO EEL_N_Whsl_IL_03-06_Oct 2002_rev	Tab 8.8	G23
SO EEL_N_Whsl_IL_03-06_Oct 2002_rev	Tab 8.9	G19
SO EEL_N_Whsl_IL_03-06_Oct 2002_rev	Tab 8.9	G24
SO EEL_N_Whsl_IL_03-06_Oct 2002_rev	Tab 8.10	G16
SO EEL_N_Whsl_IL_03-06_Oct 2002_rev	Tab 8.10	G21
SO EEL_N_Whsl_IL_03-06_Oct 2002_rev	Tab 8.11	G19
SO EEL_N_Whsl_IL_03-06_Oct 2002_rev	Tab 8.11	G20
SO EEL_N_Whsl_IL_03-06_Oct 2002_rev	Tab 8.12	G16
SO EEL_N_Whsl_IL_03-06_Oct 2002_rev	Tab 8.12	G17
SO EEL_N_Whsl_IL_03-06_Oct 2002_rev	Tab 8.12	G24
SO EEL_N_Whsl_IL_03-06_Oct 2002_rev	Tab 8.13	G21
SO EEL_N_Whsl_IL_03-06_Oct 2002_rev	Tab 8.14	G18
SO Existing UNE-P_N_Whsl_IL_02-05_Oct 2002_rev	Tab 8.22	G12
SO Existing UNE-P_N_Whsl_IL_02-05_Oct 2002_rev	Tab 8.23	G12
SO Existing UNE-P_N_Whsl_IL_02-05_Oct 2002_rev	Tab 8.24	G12
SO Existing UNE-P_N_Whsl_IL_02-05_Oct 2002_rev	TAb 8.25	G13
SO Existing UNE-P_N_Whsl_IL_02-05_Oct 2002_rev	Tab 8.26	G13
SO Existing UNE-P_N_Whsl_IL_02-05_Oct 2002_rev	TAB 8.28	F14
SO Existing UNE-P_N_Whsl_IL_02-05_Oct 2002_rev	TAB 8.28	F21
SO Existing UNE-P_N_Whsl_IL_02-05_Oct 2002_rev	TAB 8.29	E19
SO Loops_N_Whsl_IL_02-05_Oct 2002_rev	TAB 8.6	G19
SO Loops_N_Whsl_IL_02-05_Oct 2002_rev	TAB 8.7	G19
SO Loops_N_Whsl_IL_02-05_Oct 2002_rev	TAB 8.8	G19
SO Loops_N_Whsl_IL_02-05_Oct 2002_rev	TAB 8.10	G16
SO Loops_N_Whsl_IL_02-05_Oct 2002_rev	TAB 8.11	G16

Nonrecurring Cost Study	Worksheet	Cell
SO New Combo UNE-P_N_Whsl_IL_02-05_Oct 2002_rev	Tab 8.18	G12
SO New Combo UNE-P_N_Whsl_IL_02-05_Oct 2002_rev	Tab 8.19	G12
SO New Combo UNE-P_N_Whsl_IL_02-05_Oct 2002_rev	Tab 8.20	G12
SO New Combo UNE-P_N_Whsl_IL_02-05_Oct 2002_rev	TAb 8.21	G13
SO New Combo UNE-P_N_Whsl_IL_02-05_Oct 2002_rev	Tab 8.22	G13
SO New Combo UNE-P_N_Whsl_IL_02-05_Oct 2002_rev	TAB 8.24	F14
SO New Combo UNE-P_N_Whsl_IL_02-05_Oct 2002_rev	TAB 8.24	F21
ULS Port Features_N_WhslUNE_IL_02-05_10-31-02_TFA# 12-29-03	TAB 8.3.1	G14
ULS Port Features_N_WhslUNE_IL_02	TAB 8.3.1	G17
ULS Port Features_N_WhslUNE_IL_02	TAB 8.3.1	G20
ULS Port Features_N_WhslUNE_IL_02	TAB 8.3.1	G23
ULS Port Features_N_WhslUNE_IL_02	TAB 8.3.3	G14
ULS Port Features_N_WhslUNE_IL_02	TAB 8.3.3	G17
ULS Port Features_N_WhslUNE_IL_02	TAB 8.3.3	G20
ULS Port Features_N_WhslUNE_IL_02	TAB 8.3.3	G23
ULS Port Features_N_WhslUNE_IL_02	TAB 8.3.5	G14
ULS Port Features_N_WhslUNE_IL_02	TAB 8.3.5	G17
ULS Port Features_N_WhslUNE_IL_02	TAB 8.3.5	G20
ULS Port Features_N_WhslUNE_IL_02	TAB 8.3.5	G23
ULS Port Features_N_WhslUNE_IL_02	TAB 8.3.7	G14
ULS Port Features_N_WhslUNE_IL_02	TAB 8.3.7	G17
ULS Port Features_N_WhslUNE_IL_02	TAB 8.3.7	G20
ULS Port Features_N_WhslUNE_IL_02	TAB 8.3.7	G23
ULS Port Features_N_WhslUNE_IL_02	TAB 8.3.9	G14
ULS Port Features_N_WhslUNE_IL_02	TAB 8.3.9	G17
ULS Port Features_N_WhslUNE_IL_02	TAB 8.3.9	G20
ULS Port Features_N_WhslUNE_IL_02	TAB 8.3.9	G23
ULS Port Features_N_WhslUNE_IL_02	TAB 8.3.11	G14
ULS Port Features_N_WhslUNE_IL_02	TAB 8.3.11	G17
ULS Port Features_N_WhslUNE_IL_02	TAB 8.3.11	G20
ULS Port Features_N_WhslUNE_IL_02	TAB 8.3.11	G23
ULS Port Features_N_WhslUNE_IL_02	TAB 8.3.13	G14
ULS Port Features_N_WhslUNE_IL_02	TAB 8.3.13	G17
ULS Port Features_N_WhslUNE_IL_02	TAB 8.3.13	G20
ULS Port Features_N_WhslUNE_IL_02	TAB 8.3.13	G23
ULS Port Features_N_WhslUNE_IL_02	TAB 8.3.15	G14
ULS Port Features_N_WhslUNE_IL_02	TAB 8.3.15	G17
ULS Port Features_N_WhslUNE_IL_02	TAB 8.3.15	G20
ULS Port Features_N_WhslUNE_IL_02	TAB 8.3.15	G23
ULS Port Features_N_WhslUNE_IL_02	TAB 8.3.17	G14
ULS Port Features_N_WhslUNE_IL_02	TAB 8.3.17	G17

Nonrecurring Cost Study	Worksheet	Cell
ULS Port Features_N_WhslUNE_IL_02	TAB 8.3.17	G20
ULS Port Features_N_WhslUNE_IL_02	TAB 8.3.17	G23
ULS Port Features_N_WhslUNE_IL_02	TAB 8.3.19	G14
ULS Port Features_N_WhslUNE_IL_02	TAB 8.3.19	G21
ULS Port Features_N_WhslUNE_IL_02	TAB 8.3.20	G14
ULS Port Features_N_WhslUNE_IL_02	TAB 8.3.20	G21
ULS Port Features_N_WhslUNE_IL_02	TAB 8.3.21	G14
ULS Port Features_N_WhslUNE_IL_02	TAB 8.3.21	G21
ULS Port Features_N_WhslUNE_IL_02	TAB 8.3.22	G14
ULS Port Features_N_WhslUNE_IL_02	TAB 8.3.22	G21
ULS Port Features_N_WhslUNE_IL_02	TAB 8.3.23	G14
ULS Port Features_N_WhslUNE_IL_02	TAB 8.3.23	G21
ULS Port Features_N_WhslUNE_IL_02	TAB 8.3.24	G14
ULS Port Features_N_WhslUNE_IL_02	TAB 8.3.24	G21
ULS Port Features_N_WhslUNE_IL_02	TAB 8.3.25	G14
ULS Port Features_N_WhslUNE_IL_02	TAB 8.3.25	G21
ULS Port Features_N_WhslUNE_IL_02	TAB 8.3.26	G14
ULS Port Features_N_WhslUNE_IL_02	TAB 8.3.26	G21

3. Occurrence probabilities

c) Commission Analysis and Conclusion

Exceptions

The Proposed Order reaches completely erroneous conclusions with respect to SBC's Support Activities. As AT&T witness Mr. Turner clearly demonstrated, many of these Support Activities are part and parcel of traditional fallout and ought not be separately accounted for and charged for by SBC. The Proposed Order's conclusions focus solely on the occurrence probabilities of the Support Activities (which are performed by SBC's Local Service Center, or LSC) rather than whether the costs for these Support Activities are forward looking and efficient, or are the result of inefficient, unsynchronized, contaminated databases, the costs of which cannot be imposed upon CLECs in a TELRIC environment, as this Commission's *TELRIC II Order* has already determined.

The Proposed Order's recommendations on Support Activities are also erroneous and irreconcilable with the Commission's prior orders on nonrecurring charges as well as with other portions of the Proposed Order.

The Proposed Order correctly maintains the two percent fallout rate for simple orders – the same fallout rate the Commission adopted in the *TELRIC II Order*. In that Order, the Commission very clearly rejected SBC's (then Ameritech's) nonrecurring studies because they were "based on its *existing* network architecture and processes … This is the antithesis of a forward looking cost study … because it encompasses actual rather than forward looking technologies and processes." (*TELRIC II Order*, p. 39) (emphasis in original)). The Commission also very clearly rejected the notion that it was appropriate to assume the use of unsynchronized and/or contaminated databases in measuring forward looking fallout:

> Ameritech's cost study also makes no adjustment for Ameritech cleaning up and then maintaining its databases to eliminate fallout caused by database contamination. As AT&T witnesses Dr. Selwyn and Mr. Turner testified, *such database synchronization is a necessary prerequisite to a properly performed nonrecurring cost study.* (*TELRIC II Order*, p. 40 (emphasis added))

The Commission's prior orders are very clear. The CLECs must not be required to pay for costs incurred as a result of SBC's unsynchronized and/or contaminated databases, both because they are not forward looking and because to do so would violate cost causation principles. Yet that is precisely what the Proposed Order requires by not rejecting or at a minimum modifying certain of SBC's Support Activities. For example, as Mr. Turner explained, there is no question that the ESOI ("Errored Service Order Image") error occurs as a result of a defect in SBC's service order processing systems. The Commission cannot make a determination that the fallout for the overall

simple order provisioning process is two percent on a forward-looking basis yet fail to make a commensurate adjustment to the ESOI errors that SBC Illinois has separately identified as a "Support Activity".

The same can be said for the Reject Support Activity, which is nothing more than manual service order processing of a service order that was not electronically processed because the necessary computer edit checking has not yet been incorporated into SBC's OSS. Further, reducing the forward looking fallout to two percent should cause a commensurate percentage reduction to 3E Errors (resulting from a discrepancy between SBC's ordering/provisioning and billing systems as explained in Mr. Turner's testimony and confirmed in SBC witness Mr. Christensen's cross examination) and the processing of phone calls (the ACD process).

As noted above, the Proposed Order's conclusions on Support Activities are also contrary to its findings on cost causation. The Proposed Order appropriately recognizes the fundamental FCC-mandated TELRIC pricing principle that "The FCC's TELRIC pricing rules incorporate cost-causation principles. The FCC, in its *First Report and Order,* stated that "[c]osts must be attributed on a cost-causative basis." See Proposed Order at 137. Essentially, then, the party that causes the forward-looking cost should pay for the forward looking cost.

Thus, the Commission has already determined that database contamination/synchronization errors such as 3E errors and ESOI errors ought not occur in a forward looking environment and that CLECs ought not bear any costs incurred as a result of them. SBC readily admits, and the record evidence overwhelmingly demonstrates, that these errors are caused by SBC's database

contamination and discrepancies. Therefore, under the cost-causation principles set forth in the Proposed Order and in the Commission's *TELRIC II Order*, the rates charged to CLECs should include no costs for these errors.

As SBC witness Mr. Christensen acknowledged, 3E errors occur where the CLEC has properly filled out the order and the order flows through the ordering and provisioning system but the CLEC does not receive a bill due to a "discrepancy" in SBC's billing system. (Tr. 1224-1225). In Mr. Christensen's own words, "[t]here is a discrepancy that the billing system is seeing that prevents it from again being able to submit a bill to the CLEC." Because the problem is with SBC's systems and not something the CLEC did, Mr. Christensen also acknowledged that the 3E error does not go back to the CLEC but is resolved by the LSC. (Tr. 1225.) Surely the CLECs should not bear the costs of SBC's inefficient, contaminated database. These activities, and the resulting costs, are wholly inappropriate in a forward looking environment, as the Commission has already determined.

The same is true for ESOI errors. Mr. Christensen testified as follows:

Q. It's my <u>understanding</u> that in this situation the service order passes the initial mechanized error edit process, correct?

A. Yes.

Q. And, for whatever reason, the order gets kicked back to the Local Service Center because some of the information on the order does not sync up with SBC's downstream databases …?

A. … Yes, that's true. Those are actually network provisioning systems.

Q. Does that order get returned to the CLEC?

A. No, that would not.

Q. So that order when it falls out, because it failed to sync up with the downstream database, it gets fixed by the LSC?

A. That is correct. (Tr. 1222-1223.)

These errors occur, according to SBC's own witness, when the service order is appropriately populated but is ultimately rejected because the order information does not "synch up" with various of SBC's downstream databases due to database contamination and lack of synchronization. Again, these database integrity errors are not caused by CLECs but by SBC; in fact, they are errors out of the control of the CLECs, and are the direct result of SBC's failure to achieve the database synchronization that would occur with forward looking, efficient OSS.

These errors represent the antithesis of forward looking, efficient OSS. Put simply, the Joint CLECs do not dispute that SBC's LSC manually intervenes when these errors occur, although the Joint CLECs certainly question the reliability, accuracy and vintage of SBC's data, which was accumulated over anywhere from one to three months two and a half years ago, before SBC upgraded its OSS for Section 271 purposes and as a result of new, improved LSOG versions – a point the Proposed Order essentially ignores. The Joint CLECs' primary point is that, regardless of how long or how often SBC may actually perform these embedded Support Activities and regardless of the accuracy, reliability and vintage of its data, these activities simply would not occur in a forward looking environment, using forward looking, efficient OSS. As such, the CLECs should not be required to bear the costs of these LSC activities, even assuming SBC's antiquated data were accurate. To require the CLECs to pay for nonrecurring costs resulting solely from SBC's embedded, contaminated and inefficient databases would represent a radical departure from the Commission's prior orders.

To impose these costs on CLECs via nonrecurring charges would likewise be inconsistent with the recent *Virginia Arbitration Order.* At paragraph 592 of that order, the FCC WCB expressly concluded that it is inappropriate to recover costs associated with database errors from CLECs via nonrecurring charges:

> We find that the two percent fallout rate used in the AT&T/WorldCom model is consistent with TELRIC requirements. We note that several state commissions have adopted this position. We also find that it is reasonable to assume, as AT&T/WorldCom do, that competitive LEC orders that have errors are returned electronically to the competitive LEC and resubmitted and that manual intervention by Verizon at the ordering stage should be unnecessary. We do not agree with Verizon that competitive LECs should pay NRCs that reflect manual handling of all orders for six or more lines. As noted by AT&T/WorldCom, this policy appears to be a "workaround" designed to deal with the possibility that Verizon's OSS cannot reliably determine the available facilities for a given location. *We also disagree with Verizon that costs associated with database errors are appropriately recovered from competitive LECs through NRCs. Database maintenance is a recurring cost that should be recovered in recurring charges through ACFs, and not through a NRC. Allowing Verizon to impose NRCs on competitive LECs to correct database errors provides no incentive to Verizon to avoid such errors.*

Finally, yet no less critically, the Proposed Order's conclusion on Support Activities is inconsistent with its findings and conclusions on fallout. As the Proposed Order correctly concludes, "[f]all-out is the percentage of electronic orders that must be manually processed in order to create or correct a service order and allow it to be processed electronically." (Proposed Order at 166.) As SBC has explained it, the Support Activities are performed on those orders that do not flow through SBC's systems – that is, if an order falls out, it goes to the LSC for manual processing. SBC does not dispute that its proposed fallout rates and its proposed Task Occurrence Factors and Work Group Occurrence Factors are all based on SBC's existing, embedded OSS. The Proposed Order, however, rejected SBC's proposed existing, embedded fallout rate that, in many cases, is between six and 10 times the two percent

fallout the Commission ordered in the *TELRIC II Order* and that the Proposed Order here maintains.

Essentially, by adopting the two percent fallout rate, the Proposed Order has concluded that SBC's OSS are not forward looking and, as such, too many orders fall out for manual processing. By reducing the fallout percentage to two percent, by definition, fewer orders will fall out and, necessarily, fewer Support Activities will occur. For example, if fewer orders fall out, fewer orders will require a phone call to the LSC (i.e., ACD activity). Said another way, because SBC's proposals for both fallout and Support Activities are based on the same embedded, inefficient and error-ridden systems, the Proposed Order's rejection of SBC's embedded systems for calculating fallout necessarily means that SBC's Support Activity proposals must also be rejected.

Rather than propose that the Support Activities be eliminated altogether, as Mr. Turner recommended for some of the Support Activities, the Joint CLECs propose that in order to reconcile and make the Proposed Order's decision on fallout consistent with its findings on Support Activities, the Commission reduce the occurrence probabilities for SBC's Support Activities by the same percentage that SBC's fallout proposal has been reduced by the Proposed Order. The Joint CLEC proposal includes Reject Activity, ACD Activity, 3E Error Activity and ESOI Activity and those occurrence probabilities should be reduced commensurate with the reduction in fallout. Specifically, the commensurate reduction is that the same proportional reduction that the Commission has made to the embedded fallout that SBC Illinois had proposed would be made to the Support Activities probabilities identified in SBC Illinois' cost studies. As an example, if SBC Illinois' fallout percentage for a cost study had been 12 percent and the

Commission lowered it to two percent – making the forward-looking value 1/6th of the embedded value – then the four categories of Support Activities identified above would also be reduced commensurately by taking only 1/6th of the embedded Support Activities probability occurrences.

The Joint CLECs do not propose to reduce the Supplemental Order Activity and Pending Past Due, or PPD, Activities because the Supplemental Order Activity is CLEC-initiated and the PPD Activity is sometimes CLEC-driven and other times SBC-initiated. While the Joint CLECs do not agree with SBC's proposals, they acknowledge that the Proposed Order's reduction in fallout does not create the same necessary reduction to the probabilities of occurrence for those activities as it does for the other four.

Proposed Replacement Language

The final paragraph of Section IV.B.3.c, "Commission Analysis and Conclusion," at page 156 of the Proposed Order, should be stricken and replaced with the following language:

As we discuss in the fallout section, *infra*, we reject the embedded fallout rates proposed by SBC and adopt the forward looking, efficient fallout rates proposed by AT&T witness Mr. Turner. Because SBC's proposed occurrence probabilities for its Support Activities are based on those same embedded systems, we find that those probabilities must be reduced as well. In fact, they must be reduced commensurately with our ordered reductions to fallout because by reducing the fallout rates as we have consistent with our prior orders, the number of orders that fallout and require Support Activities will necessarily be reduced as well, thereby resulting in fewer required Support Activities. We also find that such a reduction is necessary because, consistent with our prior orders on cost causation, we will not impose nonrecurring costs upon that result from SBC's lack of database synchronization. As we previously determined in Docket 98-0396, database synchronization is a necessary prerequisite to a properly performed nonrecurring cost study. If SBC has not performed those requisite synchronization and database clean-up and maintenance activities, SBC, and SBC alone, should pay for those costs, which it has caused, and not the CLECs. Therefore, we hereby order SBC to reduce the probabilities of occurrence for its Reject Activity, 3E Error Activity, ESOI

Activity and ACD Activity commensurate with our ordered percentage reductions to fallout.

5. Fallout Rates

d) Commission Analysis and Conclusion

Exceptions

The Proposed Order at page 159 states: "Fall-out is the percentage of electronic orders that must be manually processed in order to create or correct a service order and allow it to be processed electronically." The Joint CLECs agree with this definition and urge that it be applied rigorously.

The Joint CLECs have already discussed their exceptions to the occurrence probability findings and conclusions in conjunction with SBC's service order cost studies. Here, the Joint CLECs seek to re-emphasize the fact that the Reject Activity, 3E Error Activity, ESOI Activity and ACD Activity, discussed previously, are all caused by fallout. Even SBC describes these activities as fallout. For example in the service order cost study for unbundled loops, SBC describes the Work Group Occurrence Factor ("WGOF") in the study as the "Probability of Manual Intervention." (SO Loops_N_Whsl_IL_02_05_Oct 2002_rev, Tab 8.19.) In that same study, the WGOF are referred to by SBC as "Probability of Manual Intervention (fall-out)." In short, the record evidence and SBC's own cost studies unambiguously demonstrate that these activities are directly related to fallout.

As the Joint CLECs have already demonstrated, the fallout that causes these activities results from errors in SBC's legacy databases. As discussed previously, CLECs have no control of SBC's databases and they are not the cost causers of the fallout. Hence, they should not be burdened with these costs above and beyond the

two percent (simple) and ten percent (complex) fallout adopted by the Proposed Order. The Joint CLECs' recommended language revisions to address this issue are set forth above in the section on Occurrence Probabilities.

Additionally, the Joint CLECs recognize that the Task Occurrence factor ("TOF") percentages and probabilities found in SBC's service order cost studies represent a concept different from the WGOF percentages and probabilities. The distinction between these two concepts is addressed in the second paragraph of this section in the Proposed Order.

Proposed Replacement Language

The Joint CLECs recommend that the first sentence of the second paragraph of Section IV.B.5.d be deleted.

C. Provisioning (Loops and EELs) Nonrecurring Cost Studies

1. Identification of tasks

d) Commission Analysis and Conclusion

Exceptions

Joint CLECs have two exceptions to the Proposed Order's conclusions on page 173. Before addressing the two exceptions, it is important to note the language in question. The Proposed Order makes the following statement: "Although Staff recommends that SBC not charge anything for the work done by the SSC/LOC or the CPC/HPC, we require SBC to utilize whichever group has the lowest costs and is, therefore, the more efficient." (Proposed Order, page 173.)

First, the Proposed Order has already addressed in separate language the applicability of SSC/LOC or CPC/HPC functions with regards to Stand Alone POTS loops. Specifically, the Proposed Order notes:

> SBC proposed, for the first time in its rebuttal testimony, that all standalone UNE loops are designed. The CLECs define a designed loop as one for which SBC assumes that the loop must undergo more rigorous testing to enable its use in a special service application or that designed loops are to be used in ways that require that they have a higher level of capability and reliability than regular POTS loops. CLECs argue that designed loops are not necessary for EEL applications nor are they required for standalone POTS loops. We agree with CLECs that because the loop is already working, SBC has given us no justification for SBC to do anything other than to simply migrate the working loop over to the CLEC collocation arrangement or the transport element. (Proposed Order, page 173.)

This language makes clear that SBC is not entitled to recover design costs for stand alone POTS Loops. As such, as an initial matter, the Proposed Order's language with regard to the selection of the shorter time between the SSC/LOC or the CPC/HPC cannot apply to Stand Alone POTS loops because neither of these work groups (which perform design work) or their times will apply to stand alone POTS loops, which are not designed.

Second, there is a particularly straightforward manner in which to implement the Proposed Order's language with respect to DS1 and DS3 loops, for which this language would apply. Specifically, TAB 6.2 of the Loops_N_WhslUNE_IL_02-05_Dec02_rev cost study identifies columns entitled as SSC/LOC and CPC/HPC that are ultimately included in the summarized nonrecurring cost for the DS1 and DS3 loop types. The Proposed Order should simply be clarified to ensure that the minimum cost of these two categories be utilized in calculating the costs of DS1 and DS3 loops.

The Joint CLECs except to the second paragraph of the Commission Analysis and Conclusion section at page 173 of the Proposed Order because it is factually incorrect. The Proposed Order erroneously concludes that IDFs help to mitigate premature exhaust of the Main Distribution Frame. The Proposed Order's rationale

suggests or implies that if a circuit is connected at an IDF, there need not be a cross connect at the MDF, thereby alleviating MDF exhaust. That is simply not the case. Every circuit must have an appearance at the MDF – no exceptions – even those that are also cross-connected at an IDF. In fact, as the Joint CLECs pointed out, SBC's cost study assumes that for every connection at an IDF, there is also a cross connect at an MDF. See Tab 6.3 of SBC's unbundled loop nonrecurring cost study (attached as Attachment A to Joint CLECs' Initial Brief) at line 58, column C and line 59, column C. Thus, SBC's premature exhaust argument has no basis in fact and makes no sense. Therefore, the Joint CLECs vehemently disagree that an IDF prevents MDF exhaust; a cross connect at an IDF has no bearing on MDF exhaust. In fact, the IDF only serves to cause premature exhaust of central office space by introducing equipment that serves no technical/network purpose.

Finally, the Joint CLECs propose a revision to the third paragraph of the Commission Analysis and Conclusion section at page 173 in the nature of a clarification. Because the Proposed Order adopts the CLECs' position that no design costs are appropriate for either stand alone loops or loops that are used as part of an EEL combination, the Joint CLECs will not reiterate our arguments on that point here. The Joint CLECs desire to ensure, however, that the Proposed Order's findings and conclusions in this regard are not inappropriately interpreted to apply to only those stand alone loops or EEL loops that just happen to be already working loops. Certainly stand alone loops and EEL loops are either designed or they are not, and the Proposed Order correctly concludes, consistent with the overwhelming record evidence presented by the Staff and the CLECs, that they are not designed and need not be designed. In

fact, SBC's cost studies do not make any such distinction based on whether or not the loop is a working loop.

Proposed Replacement Language

1. The first paragraph of Section IV.C.1.d, "Commission Analysis and Conclusion," at page 173 should be revised as follows:

Staff raises discrepancies in the activities required by various SBC work groups. We agree with Staff that SBC's position is unsupported and, in fact, has changed throughout this proceeding. We recognize that SBC's costs may differ based on whether it is provisioning EELs or standalone loops, but SBC has not adequately explained the difference. Although Staff recommends that SBC not charge anything for the work done by the SSC/LOC or the CPC/HPC, we require SBC to utilize whichever group has the lowest costs and is, therefore, the more efficient. As noted below, our directive to use the minimum cost between the SSC/LOC or the CPC/HPC does not apply to POTS Stand Alone Loops based on the fact that we conclude that these stand alone loops will not use the designed process and the SSC/LOC and CPC/HPC are designed work groups. However, with regard to the applicability of these work group costs to DS1 and DS3 Loops, we direct SBC to modify its cost studies to select the summarized minimum cost as between the SSC/LOC or the CPC/HPC from TAB 6.2 of the Loops_N_WhslUNE_IL_02-05_Dec02_rev cost study.

2. The second paragraph of Section IV.C.1.d, "Commission Analysis and Conclusion," at page 173 should be revised as follows:

CLECs assert that all cross-connect activities for performing cross-connects on an Intermediate Distribution Frame ("IDF") should be eliminated because IDFs are not "forward-looking" technology. We find SBC's argument that IDFs help to mitigate premature exhaust of the Main Distribution Frame ("MDF") to be unpersuasive. In fact, it is inconsistent with SBC's own cost studies, which assume that for every IDF connection, there is also a cross-connect at the MDF. We therefore reject SBC's specious arguments regarding premature MDF exhaust and adopt the CLECs' proposal.

3. The third paragraph of Section IV.C.1.d, "Commission Analysis and Conclusion," at page 173 should be revised as follows:

SBC proposed, for the first time in its rebuttal testimony, that all standalone UNE loops are designed. The CLECs define a designed loop as one for which SBC assumes that the loop must undergo more rigorous testing to enable its use in a special service application or that designed loops are to be used in ways that require that they have a higher level of capability and reliability than regular POTS loops. CLECs argue that designed loops are not necessary for EEL applications nor are they required for

standalone POTS loops. We agree with CLECs that designed loops are not necessary for EEL applications or for standalone POTS loops. We further find that SBC's proposal is nonsensical and irrational. For example, SBC's proposal requires that all loops, including loops that are already working, must undergo the additional testing and scrutiny of the design process. ~~b~~Because the loop is already working, SBC has given us no justification for SBC to do anything other than to simply migrate the working loop over to the CLEC collocation arrangement or the transport element. As the CLECs also point out, the testing for the EEL is done on the transport element and no such similar testing is required of the loop.

2. Activity times

d) Commission Analysis and Conclusion

Exceptions

The Proposed Order at page 182 states, "CLECs and Staff made many changes to SBC's proposed activity times. We agree with CLECs and Staff that following adjustments are appropriate." As discussed throughout this brief, certain issues raised by the Joint CLECs were not addressed by the Proposed Order. In view of this, the Joint CLECs take exception to this language.

Next, there are two portions of the Proposed Order which relate to travel times that, unless clarified, have the potential to introduce confusion in determining the travel times that are appropriate to use for various processes. Specifically, the first and most explicit language, found in the Proposed Order at page 182, states:

> SBC proposes various travel times based on SME estimates. CLECs and Staff argue that SBC's proposal is unsupported. SBC carries the burden of proof in this proceeding. We do not believe that SBC has met its burden. SME estimates may be appropriate in other areas of SBC's cost studies, but not here. Estimates of travel times do not require, nor should they be based on, an SBC technician's opinion. Rather, travel times are readily subjected to statistical analysis. We do not find SME's estimates to be appropriate and, accordingly, we adopt CLECs' and Staff's adjustments to travel times.

The context of this discussion regarding travel times is quite clear. The Proposed Order concludes that the travel time determination should be the result of an

analytical approach to the amount of time involved in reaching a point within SBC Illinois network, and ought not be based on SME estimates. With regard to the travel times at issue in this proceeding, only Mr. Turner and Dr. Ankum/Mr. Morrison actually made quantitative adjustments to the travel times in line with the approach recommended by the Proposed Order. The Staff's recommended adjustments simply selected the smaller of the travel times among the various groups being dispatched to different network points. But even the selection of the lower time still depends on the use of SME estimates; it is simply using the lower SME estimate. It is not an analytical assessment, as the Proposed Order requires.

As such, to fully implement the Proposed Order's requirement, the travel times the Joint CLECs have used to restate the nonrecurring cost studies are those either proposed by Mr. Turner (where he is the only witness to propose a change) or by both Mr. Turner and Dr. Ankum/Mr. Morrison where both CLEC parties addressing travel times made recommended changes.

Third, the Proposed Order at page 182 states "We direct to SBC to utilize the testing and travel times of whichever group is lower." The Joint CLECs have already taken exception to this language with regard to its applicability to travel times. The Joint CLECs also take exception to this language with regard to its applicability to testing.

Joint CLEC witnesses Mr. Turner, Dr. Ankum and Mr. Morrison discussed SBC's activity times at length. Mr. Turner testified:

- SBC has consistently overstated the costs associated with testing, particularly for cross-connects, because SBC fails to understand that complex testing is done on the *circuit* and not on the *cross-connect*. The only testing done on the cross-connect is connectivity testing, which takes very limited time – two minutes. Again, with TELRIC, only incremental costs are evaluated in an efficient forward-looking network environment.

The only incremental cost for cross-connects is the cost of the continuity testing. Where there is additional incremental cost associated with the circuit as a whole, it should not be recovered in the cost of the cross-connect.

- The *times* that SBC has identified for Special Services Center ("SSC") testing is excessive because SBC has not accounted for the work center practice of performing multiple field tests in parallel.

- The total sequential time that SBC identifies for the DS1 and DS3 test is included in the SSC addressed above. However, SBC includes even more time than this for the CP&M-DOG to work with the SSC in the field. Mr. Turner took exception to these times, reducing these times for initial DS1 loops and initial DS3 loops to the sequential time identified for the SSC (since the CP&M-DOG likely cannot perform work in parallel). This same adjustment must be made to the "additional" times in the CP&M-DOG worksheet as well.

Dr. Ankum and Mr. Morrison addressed many of the same issues addressed by Mr. Turner. Specifically, Dr. Ankum and Mr. Morrison addressed the following issues regarding test activity times:

- SBC's test times are unsupported.

- SBC treats its test times as standalone activities and does not account for the fact that while tests are being performed, technicians can and will perform other tasks. This is certainly true for the longer tests included in SBC's studies, such as those at the central offices, where technicians have many tasks that they can – and do -- attend to.

- Most of the tests on the cross-connects are simple "pre-service" tests (referred to by Mr. Turner as continuity tests) and should take far less time than those included in SBC's cost studies.

- The coordination activities performed by SBC's SSC technicians do not require that a SSC technician continuously attend to one specific test; he or she will set up coordinated tests for many technicians simultaneously. SBC failed to account for these economies.

Dr. Ankum and Mr. Morrison proposed very specific adjustments to each of SBC's test activity times.

The Proposed Order failed to acknowledge any of these arguments, proposed modifications and recommendation.

Proposed Replacement Language

1. The Joint CLECs propose the following revision to the first paragraph in Section IV.C.2.d. on page 182:

CLECs and Staff made many changes to SBC's proposed activity times. We agree with CLECs and Staff that, at minimum, the following adjustments are appropriate.

2. The second paragraph in Section IV.C.2.d on page 182 should be revised as follows:

SBC proposes various travel times based on SME estimates. CLECs and Staff argue that SBC's proposal is unsupported. SBC carries the burden of proof in this proceeding. We do not believe that SBC has met its burden. SME estimates may be appropriate in other areas of SBC's cost studies, but not here. Estimates of travel times do not require, nor should they be based on, an SBC technician's opinion. Rather, travel times are readily subjected to statistical analysis. We do not find SME's estimates to be appropriate and, accordingly, we adopt CLECs' ~~and Staff's~~ adjustments to travel times. The travel times shall be calculated by averaging the travel times proposed by Mr. Turner and Dr. Ankum/Mr. Morrison where both parties have proposed a change to the travel time and shall be calculated using Mr. Turner's proposed travel time where only Mr. Turner has proposed a modified travel time.

In addition, the sixth paragraph in Section IV.C.2.d on page 182 should be revised as follows, given that the travel time issue has been fully dealt with above:

Further, Staff is correct that SBC has not supported its different activity time proposals for standalone loops (CP&M) and EEL (DOG) with respect to ~~travel and~~ testing. We agree that SBC has merely shown that one group is more efficient than the other. We direct to SBC to utilize the testing ~~and travel~~ times of whichever group is lower.

3. The sixth paragraph in Section IV.C.2.d on page 182 should be revised as follows:

We agree with the CLECs that SBC has failed to adequately support its proposed activity times for testing, particularly given the numerous reasons provided by Mr. Turner and Messrs. Ankum/Morrison for why SBC's testing times are flawed and, in

many cases, excessive. Further, Staff is correct that SBC has not supported its different activity time proposals for standalone loops (CP&M) and EEL (DOG) with respect to ~~travel and~~ testing. We agree that SBC has merely shown that one group is more efficient than the other. We direct SBC to utilize the testing ~~and travel~~ times of whichever group (CP&M or EEL DOG) is lower. We further direct SBC to use the average of the test times proposed by Mr. Turner and Dr. Ankum and Mr. Morrison, whenever those test times are lower than those provided in SBC's studies for CP&M or EEL DOG groups.

3. Occurrence probabilities

e) Commission Analysis and Conclusion

Exceptions

The Proposed Order contains explicit language regarding the incorporation of DOP ("Dedicated Outside Plant") and the effect of accounting for migrations into the overall DOP percentage of around four percent, the value the Proposed Order adopts for POTS UNE loops. (Proposed Order, p. 190.) The Proposed Order correctly indicates that this is the proposal of Staff. Mr. Turner also proposed a value of approximately four percent; therefore, the Joint CLECs do not take exception to this percentage.

The Proposed Order also notes that the migration percentage that should be used for DS1 and DS3 Loops should be 50 percent. (Proposed Order, p. 191.) Once again, Joint CLECs do not take exception to this percentage because it adopts the proposal of AT&T witness Mr. Turner.

That said, the Joint CLECs take exception to the Proposed Order to the extent that, while the Proposed Order accounts for both DOP and migration with respect to UNE POTS Loops, the Proposed Order only accounted for migration with respect to DS1 and DS3 Loops, but failed to take into account that DOP exists for DS1 and DS3 loops, even in those cases where the loop is not already working (in which case, it

would be migrated). DOP can be in effect here as well. As noted above, Mr. Turner developed a percentage for UNE POTS loop incorporating DOP and migration for those loops that was equivalent to the Proposed Order's value of around four percent. Because Mr. Turner used the same approach for DS1 and DS3 Loops, the Joint CLECs recommend that for internal consistency, the Proposed Order should utilize Mr. Turner's overall DOP percentage for DS1 and DS3 Loops of approximately 19 percent.

Second, the Joint CLECs take exception to the fourth paragraph of the Commission Analysis and Conclusion section at page 190 of the Proposed Order to clarify that, based on its asserted rationale, the Proposed Order is adopting Mr. Turner's recommendation to set the occurrence probability of how often loops will be cross connected to the IDF at zero.

In the fourth paragraph of Section IV.C.3.e, the Proposed Order criticizes the use of the percentage of central offices which contain IDFs as the appropriate occurrence probability for how often loops will be cross connected at an IDF. In criticizing this proposal, the Proposed Order explains: "We recognize that the percentage of offices with IDFs may not be indicative of how often loops will be cross connected at both the IDF and the MDF because of differences in central office sizes, but we find that SBC has failed to adequately support its proposal and, therefore, we direct that the occurrence be reduced to the percentage proposed by Mr. Turner." (Proposed Order at 190.)

In sum, then, SBC has failed to support its proposal; in fact, SBC's proposal cannot be correct given the percentage of central offices that have no IDF. The Proposed Order rejects the notion of using the percentage of central offices that contain

IDFs as the appropriate occurrence probability due to the difference in central office sizes. The Joint CLECs seek to clarify that the Proposed Order is adopting Mr. Turner's proposed percentage of zero and recommend additional language to implement that clarification:

Third, Joint CLECs take exception to the first paragraph of the Commission Analysis and Conclusion section at page 191 of the Proposed Order because this conclusion conflicts with an earlier clear directive of the Proposed Order. Specifically, SBC acknowledges that the AMWLAC code for UNE-P loop provisioning should use the lower value recommended by the Joint CLECs, but SBC disagrees that the same value should also be used for Stand Alone loops "noting that the AMWLAC is not involved in provisioning EELs or unbundled loops." (Proposed Order, p. 183.) The reason that SBC contends the AMWLAC is not involved in the provisioning of Stand Alone loops, however, is because SBC has insisted that Stand Alone and EEL Loops must be provisioned using a designed process. In other words, the only reason that the more efficient process performance of the AMWLAC is used for UNE-P loop provisioning and not for EELs or unbundled loops is because SBC contends that the designed loop process ought apply to the cost development of Stand Alone and EEL Loops. As the Proposed Order has already concluded, however, stand alone loops and EEL loops shall not be subject to the designed loop process. Thus, there is no reason why AMWLAC cannot be involved in provisioning stand alone loops and EEL loops as well as UNE-P loop provisioning.

In sum, then, SBC should be ordered to use the AMWLAC probability for UNE-P loops, Stand Alone loops and EEL loops to ensure that the cost development is

consistent with the Proposed Order at page 173 regarding designed loop cost application.

Proposed Replacement Language

1. The fifth paragraph in Section IV.C.3.e on page 190 of the Proposed Order should be revised as follows:

Staff recommends, and we agree, that because of the inconsistencies identified in SBC's studies, the Commission should require the company to assume Staff's proposed CP&M work group occurrence for standalone POTS UNE loops of around 4%. Equivalently, the Joint CLECs recommend, and we agree, that an equivalent adjustment must be made to the DS1 and DS3 Loop CP&M work group occurrence to account for migration and DOP of around 19 percent.

2. The eighth paragraph in Section IV.C.3.e, on page 190 of the Proposed Order, should be revised as follows:

CLECs and Staff assert that SBC's proposed occurrence factor for how often loops will be cross connected at both the MDF and IDF are incorrect. We must agree with CLECs based on evidence offered that IDFs are not present in all SBC central offices. We recognize that the percentage of offices with IDFs may not be indicative of how often loops will be cross connected at both the IDF and MDF because of differences in central office sizes, but we find that SBC has failed to adequately support its proposal and, therefore, we direct that the occurrence be reduced to the zero percentage proposed by Mr. Turner.

3. The eleventh paragraph in Section IV.C.3.e, on page 191 of the Proposed Order, should be modified as follows:

AT&T asserts that the WGOF for the Loop Assignment Center ("LAC") should be replaced with the WGOF for the AMWLAC Code because LAC fallout for this process is specifically monitored for the AMWLAC. According to SBC, however, the AMWLAC is not involved in provisioning EELS or unbundled loops, but handles UNE-P orders. However, given our prior determination rejecting SBC's proposal that all stand alone loops and EEL loops shall be designed, we agree with the recommendation of AT&T witness Mr. Turner that the WGOF for the AMWLAC should be used for stand alone loops and EEL loops as well as for loops ordered as part of a UNE-P combination. ~~, but only for the UNE-P product. With respect to unbundled loops and EEL, SBC contends, and we agree, that the WGOF should continue to reflect the occurrence probabilities experienced by the workgroups that are actually involved in the relevant provisioning activities.~~

D. Switch Port and Features Nonrecurring Cost Studies

1. Activity times

c) Commission Analysis and Conclusion

Exceptions

The Proposed Order incorrectly concludes that in a forward looking environment, extremely variable switch provisioning times will be able to persist among the Nortel, Siemens and Lucent switches. (Proposed Order at 203.) The Proposed Order's erroneous conclusion appears to be premised on two faulty assumptions. First, the Proposed Order confusingly explains that the Commission must look at currently available technology. What the Joint CLECs contend, however, is that in a TELRIC study and in a TELRIC environment, the Commission *must assume the use of the most forward looking, efficient technology currently available.* The Proposed Order violates that principle because it adopts the use of technologies that, while currently available, are not the most forward looking and efficient technologies currently available. Certainly the switch market is intensely competitive and, as such, in a forward looking environment, each switch vendor will strive to be the best in class in all areas, including the area of switch provisioning times. Put simply, in the long run TELRIC environment, all switches would be provisioned in the most efficient manner.

Additionally, the final paragraph of the Commission Analysis and Conclusion section at page 203 of the Proposed Order is inconsistent with the Proposed Order's conclusion that all log in and administrative close out times ought be set to one minute across the board. (See Proposed Order at 148.)

Proposed Replacement Language

1. The fourth full paragraph in Section IV.D.1.c. at page 203 of the Proposed Order should be stricken in its entirety and replaced with the following language:

The Commission finds that competition among the three switch vendors over the extensive life of the products in question would not allow for activity times in the aggregate to reflect such a disparity over time. Therefore, we find that the activity times for Nortel and Siemens switches should be identical to that of Lucent switches.

2. The final paragraph of Section at IV.D.1.c. at page 203 of the Proposed Order should be stricken in its entirety and replaced with the following language:

Consistent with our prior conclusions, we hereby order SBC to set its log in time to one minute.

2. Occurrence probabilities

c) Commission Analysis and Conclusion

Exceptions

The Proposed Order inappropriately confuses fallout and WGOF. The Proposed Order at page 204 explains that the WGOF is the probability that a particular work activity is required when an order falls out. The Joint CLECs do not dispute that. What the Joint CLECs vehemently dispute is that the Proposed Order appears to accept the high level of fallout SBC proposes, which necessarily drives up the WGOF. In determining fallout, however, the Commission must reject SBC's arguments, which are premised upon its existing, embedded systems. The Joint CLECs' primary point is that whether or not orders flow through in SBC's current, existing OSS environment is irrelevant. The relevant inquiry is what level of fallout is appropriate in a forward looking environment. There is absolutely no reason the two percent fallout the Proposed Order adopts for service orders ought not apply to orders for basic ports and basic port features as well.

In fact, at pages 205-206, the Proposed Order correctly concludes that Centrex Port features should flow through in the same manner as Basic Port features. That is, as AT&T witness Mr. Turner demonstrated, to the extent there is an equivalent Basic Port feature match for a Centrex port feature, there is no reason that the Centrex port feature should not flow through electronically just as the corresponding Basic Port feature does. (See Proposed Order at 206.) Accordingly, the Proposed Order correctly ordered that "all line assigned [Centrex Port] features are required to assume a flow through of 98%, consistent with our decision above." (Proposed Order at 206.)

The Proposed Order's conclusion at page 206 requiring SBC to utilize a 2% fallout for Centrex Port features explains that it is doing so based on the fact that the Proposed Order also finds that a 2% fallout percentage is appropriate for Basic Port features. In fact, SBC witness Mr. Cunningham confirmed that both Centrex and Basic Port features flow through, contrary to whatever arguments SBC has raised here. Specifically, as Mr. Cunningham testified: "Line assigned features, whether they be against Centrex or POTS lines, do often utilize a flow through process." (SBC Ex. 18.0, p. 2.) Features for those POTS lines are precisely what are at issue at page 206 of the Proposed Order. Thus, there is no question that these features are designed to flow through.

Accordingly, the Commission Analysis and Conclusion section at page 204 must adopt that same level of flow through for Basic Port features if the Proposed Order's conclusions at 206 are to be given meaning and sense. Both Mr. Turner and Dr. Ankum recommended a 2% fallout rate for Basic Port features because there is no reason for the provisioning of Basic Port features to fallout in a forward looking, efficient OSS

environment. Certainly, the fallout of these Basic Port features can be no greater than the fallout for Centrex Port features, which the Proposed Order sets at two percent.

Moreover, to the extent the Proposed Order adopts a two percent fallout rate for Centrex Port features based on the fact that it agrees with the Joint CLECs that the appropriate fallout percentage for Basic Port features is two percent, it also necessarily follows that the two percent fallout percentage must apply to Basic Ports as well. There is no legitimate reason why the fallout for Basic Ports would be any greater than the fallout for Basic Port features. In fact, SBC's own cost studies use the same (albeit too high) fallout percentage for both Basic Port features and Basic Ports. Therefore, the Proposed Order's language is an inadvertent error and must be corrected.

Proposed Replacement Language

Section IV.D.2.c, "Commission Analysis and Conclusion," at page 204 of the Proposed Order should be stricken in its entirety and replaced with the following:

There is no question that basic port feature orders are designed to flow through and, in fact, these orders exhibit a very high degree of flow through, with little required fallout or manual intervention. SBC witness Mr.Cunningham confirmed that these orders are designed to flow through, and do so. Moreover, even SBC agrees that the fallout percentage for basic port features and basic ports ought be the same. Consistent with our two percent fallout rate discussed above for simple orders, we hereby adopt the recommendation of AT&T witness Mr. Turner that this same fallout rate ought apply to Basic Port features and Basic Ports. Indeed, as we discuss below, the record evidence overwhelmingly demonstrates that the fallout rate for Centrex Port features ought be 98% -- the same for their Basic Port feature counterparts. Consistent with our recommendation above, we adopt the CLECs' two percent fallout and direct SBC to use it in its Switch Port and Features Nonrecurring Cost Studies.

E. Miscellaneous

1. Special Access to UNE Conversion Non-Recurring Cost Study

d) Commission Analysis and Conclusions

Exceptions

The Proposed Order generally retains SBC's proposed service order costs for SA2UNE Conversions. (*See* the last paragraph of the Commission Analysis and Conclusion at page 210.) While the Joint CLECs continue to adhere to their recommendations, there is one particular area where the Joint CLECs contend the Proposed Order must be modified. That area relates to SBC's proposal to include costs for the Access Service Center for SA2UNE conversions. As Mr. Turner explained in his testimony, the only task the Access Service Center performs in a SA2UNE Conversion is to disconnect the Special Access circuit in SBC's systems. This disconnection cost, however, has already been recovered from a cost perspective from the CLEC via the upfront nonrecurring charges the CLEC paid when it established the Special Access Circuit. From a cost-causation standpoint, it is only proper that this disconnection cost not be borne by the CLEC via the SA2UNE Project Administration charge.

Proposed Replacement Language

The last paragraph of Section IV.E.1.d, "Commission Analysis and Conclusion," at page 210 should be modified as follows:

CLECs' and Staff's other proposed reductions to the SA2UNE NRCs have been successfully rebutted by SBC with one exception. The Access Service Center costs included in SBC's SA2UNE Project Administration charge should be removed consistent with Mr. Turner's testimony.

V. LABOR RATES

C. Commission Analysis and Conclusion

Exceptions

Joint CLECs take exception to two of the Proposed Order's conclusions with respect to labor rates. Both of the conclusions to which Joint CLECs except involve

loadings and adjustments to the basic wages and salaries for benefits and other factors. Joint CLECs have accepted the base wage and salary data used by SBC in its studies.

Joint CLECs' first exception is with respect to benefits loadings. The Proposed Order errs in employing a fundamentally embedded cost approach rather than a forward-looking, TELRIC–compliant approach to benefit loadings. Proposed Order, p. 215. As the Proposed Order correctly observes, SBC adjusts its labor rates with loadings to reflect such items as paid absence, premium overtime and special payments, social security, Medicare and pensions, life insurance, and savings and medical plans. SBC derived all of these loadings, however, from its historical, embedded costs, and SBC made no effort to render them forward-looking by attempting to reflect the level of benefit costs that would be experienced on a forward-looking basis and in a competitive environment. The Proposed Order, erroneously, largely accepts SBC's benefit cost loadings.

As noted above, Joint CLECs accepted as a starting point the same basic wage rates used by SBC. Joint CLEC witness Mr. Flappan demonstrated, however, that the benefit loadings used by SBC are excessive when compared to forward-looking, competitive benchmarks. In particular, Mr. Flappan cited the Hewitt Associates studies of 2001 and a more recent study as evidence that SBC's benefit loadings are in fact inordinately high and do not reflect anything approaching efficient costs.[69] (See Joint

[69]The Proposed Order cites Mr. Flappan as contending that "SBC's benefit costs should not exceed the benefit costs it is currently realizing for managers hired after August of 1997" (Proposed Order, p. 217), and then states "We disagree. Forward-looking and efficient does not mean that every cost will be less expensive." *Id.* The Proposed Order is correct in the latter observation, but it misperceives Mr. Flappan's testimony and his recommendation. Mr. Flappan did not recommend limiting SBC's benefit costs to those of "new hires," but rather observed that the loadings used by SBC vastly exceeded the

CLEC Initial Br., pp. 330-331) Instead, Mr. Flappan derived an overall benefits factor using Bureau of Labor Statistics data, specifically the "Employer Costs for Employee Compensation" study for Communications Public Utilities, Standard Industrial Classification 48. This data comprises relevant and directly comparable prevailing industry averages for comprehensive benefits. Using this data Mr. Flappan derived his overall benefits factor of .67, which can be used to produce a loaded labor rate including benefits.

The Proposed Order does not question the validity of the BLS data used by Joint CLECs but rather finds, without explanation, that "SBC has adequately supported its proposal." (Proposed Order, p. 215) The Proposed Order states:

> SBC will clearly be incurring these costs on a going forward basis and [they] are not only reflective of costs that SBC will incur, but also the costs that any carrier would incur to maintain a quality workforce. Additionally, we note that many of SBC's benefit obligations are contractually obligated. (*Id.*, pp. 215-216.)

Therein lies the key error of the Proposed Order on this point, and its crucial departure from TELRIC principles. The costs that SBC itself may incur going forward, based upon its actual embedded loadings, are *not* reflective of the costs that "any carrier" would incur to maintain a quality workforce. That is the point of the BLS data (as well as the Hewitt data), which show that SBC's labor loadings are materially in excess of those incurred by other carriers in maintaining a quality workforce in a competitive

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current levels reflected in the Hewitt studies, and thus could not be efficient, current and forward looking levels. Mr. Flappan's recommended loadings levels were those found in his reference BLS data, which reflect the *mix of employees – new and older hires – in the workforces of those competitive (and comparable) companies.*

environment.[70] And the fact that SBC's benefits obligations may currently be "contractually obligated" is not relevant to a proper TELRIC analysis, as the FCC recognized in the Local Competition Order.[71] Thus, the Proposed Order's departure from basic TELRIC principles should be corrected.[72]

The second material error in the Proposed Order as to labor rates is in its treatment of the fact that SBC managers work more than 40 hours per week and receive no overtime payment for those extra hours. It is undisputed by SBC and accepted in the Proposed Order that this is a fact.[73] The Proposed Order finds, however, that no adjustment is necessary to SBC's cost studies "because SBC has already included such an assumption." *Id*.

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[70]The Proposed Order observes that to maintain an "efficient, forward-looking network," SBC must have "quality" workers, and that if SBC does not offer "competitive wages," it will not be able to maintain a "quality workforce." Again, these observations are unexceptionable, but the implication – that the Joint CLECs' methodology somehow overlooks this factor – is simply wrong. Mr. Flappan made no adjustments to the wages and salaries used by SBC. Further, the BLS benefit percent of wages data used by Mr. Flappan reflects the "quality" workforces of comparable, competitive companies.

[71]See Local Competition Order, n. 677 (Citing William Baumol, *Economic Theory and Operations Analysis* 290 (4th ed. 1977) ("The very long run is a period so long that all of the firm's present contracts will have run out, its present plant and equipment will have been worn out or rendered obsolete and will therefore need replacement, etc.")).

[72]If an embedded cost approach were to be used, then it properly should reflect the benefit of earnings on SBC's massive pension funds. SBC does not offset its benefits costs by the amount of these earnings (AT&T Ex. 4.1, p. 20). For example, SBC's 2003 Annual Report shows pension assets of over $24.999 billion at the start of 2003, a return on plan assets of $5.584 billion in 2003 (22.3%) and nearly $28.154 billion in assets at the end of 2003. http://www.sbc.com/gen/investor-relations?pid=5474. Applying the cost of capital (8.94%) adopted by the Proposed Order to SBC's pension assets would produce a return of approximately $2.5 billion as an offset to SBC's benefits costs.

[73] Proposed Order, p. 216 ("[W]e agree that SBC should assume that its managers work more than 40 hours per week.")

This finding is factually erroneous. The ALJs may have been confused by SBC's presentation on this point. The finding that SBC "has already included" an assumption to account for this factor is based upon SBC's bare assertion that this is the case. SBC, by its own admission, used a denominator of 2080 hours (40 hours times 52 weeks) as the initial step in calculating a "productive" hourly wage figure. SBC's contention was that this figure is conservative because it assumes that its managers work every work day of the year (i.e., it does not account for vacations, holidays and personal days), so that when those non-productive days are taken into account, SBC's methodology in effect assumes over 44 hours per week for the weeks managers actually work. What this assertion ignores, however, is that SBC subsequently made a separate adjustment for "paid absences" which encompasses the same factors SBC cites as accounting for the fact that managers work more than 40-hour weeks. Thus, SBC's method double counts for these costs – once in the paid absence factor and a second time in their inclusion in the basic wage calculation. As a result, SBC's method does *not* in fact include an adjustment for excess management hours, and the Proposed Order's finding in this regard is flatly erroneous. Instead, Mr. Flappan's adjustment factor of .9050, based on BLS data for management employees in a broad range of relevant job categories, should be applied to SBC's management wage rates.[74]

Proposed Replacement Language

[74]The Proposed Order observes (p. 216) that "SBC regularly experiences overtime for which its employees must be compensated," implying that the Joint CLEC methodology somehow ignores overtime costs. This observation reflects apparent confusion between management employees, who are exempt from overtime payment, and hourly employees, who are not. Mr. Flappan's methodology with respect to exempt management "overtime" hours has nothing to do with the treatment of overtime worked by non-exempt employees, which his methodology fully reflects.

Section V.C, “Commission Analysis and Conclusion”, on pages 215-217 of the Proposed Order should be revised as follows:

SBC adds many costs to the average wages of its employees. These adders include items such as benefits, pensions, bonuses, break time, vacation time, and overtime.

CLECs aver that labor rates that are compliant with TELRIC principles would reflect the forward-looking cost of labor in an open competitive market. Based on this, CLECs suggest many adjustments to SBC's proposed adders to its basic wages.

SBC non-management employees are given two paid 15-minute breaks each day. The CLECs' proposal assumes that both non-management and management employees will be productive 95% of the time. The CLECs, in their Initial Brief, recognize that no reasonable company would expect its workers to engage in productive activities 100% of the day. SBC's method for accounting for this is acceptable. We note that whichever proposal we adopt will not result in a significant change in dollar amounts. Similarly, CLECs' adjustments for clerical and supervisory support make little difference and do not warrant a change to SBC's proposal.

SBC proposes to adjust its labor rates with benefit loadings which include: paid absence; premium overtime and special payments; wage increases; Social Security, Medicare and pensions; life insurance, savings plans and medical plans; and other expense. The CLECs propose to adjust SBC's costs to be consistent with information on benefits published by the United States Department of Labor Bureau of Labor Statistics ("BLS"). ~~For the majority of these categories of benefit loadings, we find that SBC has adequately supported its proposal. SBC will clearly be incurring these costs on a going forward basis and are not only reflective of costs that SBC will incur, but also the costs that any carrier would incur to maintain a quality workforce. Additionally, we note that many of SBC's benefit obligations are contractually obligated.~~ We agree with Joint CLECs that SBC’s labor rate loadings are based upon SBC’s own embedded costs, and that instead its labor rates should be “normalized” or benchmarked against objective, external data to ensure that the labor rates used for costing purposes reflect the efficient, forward-looking cost principles on which TELRIC rests. The benefit factor derived by Joint CLEC witness Flappan properly reflects current market conditions, based upon data from a broad universe of companies under competitive conditions, and is therefore consistent with sound TELRIC principles and methodology. Accordingly, SBC’s base wage and salary figures should be divided by the .67 overall benefit factor recommended by Joint CLECs to arrive at labor rates including benefits.

The CLECs object to SBC's inclusion of a factor for wage increases. CLECs argue that because SBC's studies fail to include an increase in efficiency, neither should its studies include an increase in wages or a forward-looking adjustment for inflation. CLECs reached this conclusion by comparing worker productivity data from BLS with Consumer Price Index ("CPI") data, which resulted in a conclusion that worker productivity increases exceed inflation price increase by 3.8% per year on average. We

find that wage increases must be taken into account to the extent that SBC's collective bargaining agreements contain specific scheduled wage increases through 2003. The Commission finds those increases to be the best evidence of forward-looking TELRIC wage costs. Adjusting SBC's wages further, through the application of an inflation factor is inappropriate. Our task here is to set prices today based on efficient, currently available technology. CLECs' productivity factor is also denied for the reasons discussed below, however, it should no longer be an issue as we are denying SBC's request for an inflation adjustment.

SBC's category, "other expenses," captures other direct employee-related costs, such as costs for conferences and travel, home relocation, tuition, training and other. CLECs assert that SBC has not adequately explained what these other expenses cover. We agree. The SBC witness responsible for these adjustments was unable, under cross-examination, to demonstrate how these other business travel and meal reimbursement expenses differed from the expenses included in the approximately fifteen already existing accounts for air travel, lodging, personal, rental and company-owned vehicles, public transportation general meals, quiet business meals and conference meals. Accordingly, we will adopt the CLECs' proposal for this category.

Besides the benefit loading, the CLECs argue that SBC has not recognized that managers normally work more than 40 hours per week and receive no overtime payment for their extra hours. The CLECs presented evidence showing that management employees worked an average of 44.2 hours per week in 2001, relying on evidence from the BLS Current Population Survey ("CPS"). Hence, according to CLECs, SBC has overstated its managerial labor wages and salaries by 10.5%. We agree with CLECs that if SBC's managers do not work more than 40 hours per week then SBC is clearly shielded from competitive pressures. SBC~~, however, ha shown~~ contends that its proposal already assumes that such employees work more than 44 hours per week~~.~~, but in fact SBC's methodology double counts for "paid absences" and does not account for management hours in excess of 40 per week. ~~Accordingly, we~~We agree that SBC should assume that its managers work more than 40 hours per week~~.~~, and find that witness Flappan's adjustment of .9050 properly reflects this factor. The .9050 factor should be applied in arriving at "productive hour" management wage rates. ~~We find, however, that no adjustment is necessary to its cost studies because SBC has already included such an assumption.~~

~~SBC regularly experiences overtime for which its employees must be compensated. The CLECs have not shown that on a going forward basis these costs will not still be incurred by SBC. In fact, as competition increases, SBC UNE personnel will likely experience greater workloads.~~

It is undisputed ~~We find~~ that in order to maintain an efficient, forward-looking network, SBC must have quality workers. If SBC does not offer competitive wages, ~~such as those contained in its labor contracts,~~ it will not be able to maintain a quality workforce. ~~Moreover, many of SBC's future wages are already determined through labor contracts. The labor contracts are forward looking in that the agreements specify the required wage levels and committed wage increases. CLECs' arguments here are~~

~~counter to their arguments with respect to other NRC factors. CLECs argue that SBC activity times should only be based on experienced technicians, yet here they do not want SBC to recover its costs to retain those experienced technicians. SBC's proposals for labor rates and activity times are based on a mix of new and old employees and the costs that it will incur to keep a similar workforce in the future. Technology may change in the future, but the available workforce will be similar to that available today.~~ The data used by Joint CLECs in developing their proposed labor rates meet the "efficient, forward-looking" standard, however, while SBC's method does not. The Commission notes that Joint CLECs accepted the same basic wage rates used by SBC. The BLS data used to derive Joint CLECs' adjustments reflect the workforces of the companies that constitute that data base – companies that currently constitute the competitive communications industry. These companies' workforces certainly contain a relevant mix of "older" and newer workers, as driven by the competitive market, and it is appropriate to "benchmark" SBC's labor rates against that objective, external standard. It bears repeating also that the rates we use here will not directly affect either the composition of SBC's workforce (including union vs. non-union) or its pay scale; it is not appropriate, however, for SBC's wholesale customers to pay UNE rates that reflect labor costs that are not TELRIC compliant, and the adjustments we adopt here are intended to preclude that impermissible result.

~~AT&T witness Flappan argues that "SBC's benefit costs should not exceed the benefit costs it is currently realizing for managers hired after August of 1997." We disagree. Forward-looking and efficient does not mean that every cost will be less expensive.~~

VI. SHARED AND COMMON FACTORS

A. Issues Common to Shared and Common Factors Development

2. Use of regulated and unregulated data

d) Commission Analysis and Conclusion

Exceptions

The Proposed Order errs by failing to adopt Joint CLECs' recommendation to use only data from SBC's regulated operations in calculating its shared and common costs and annual cost factor ("ACF"). As the Joint CLECs highlighted in our testimony and briefs, the relationship between SBC's regulated expenses and its regulated investments (the underlying basis for SBC's common cost numerator and denominator) differs substantially from the same relationship for nonregulated services. Indeed, Joint

CLEC witnesses Starkey and Fischer pointed out that nonregulated services consume far more expenses compared to investments (i.e., common costs would be higher) than do regulated services (the resultant common cost percentage would be far lower). (AT&T/Joint CLEC Ex. 1.0, p. 46.)

Moreover, as all parties agree, the shared and common markup and ACFs the Commission orders will be applied solely to UNEs, which are regulated services. As such, the use of regulated data is most appropriate. In fact, the Proposed Order itself implicity recognizes these points in adopting Staff's proposal to reduce the costs for building and land to reflect those costs associated with non-regulated service. See Proposed Order, p. 222.

Proposed Replacement Language

The first two paragraphs on page 223 of the Proposed Order, in Section VI.A.2.d, should be stricken and replaced with the following:

Messrs. Starkey and Fischer also point out that the common (and shared) cost allocator approved by the Commission in this proceeding will only be applied to direct costs for regulated services and, hence, comparing regulated expenses and regulated investments (i.e., direct costs) is the most pertinent exercise. To accomplish this more relevant comparison, Messrs. Starkey and Fischer, in recalculating SBC's proposed model, removed non-regulated amounts from both the numerator (expenses) and the denominator (direct costs). Using the FCC's accounting rules (including its delineation between regulated and non-regulated data), Messrs. Starkey and Fischer were able to remove expenses and investments that are generated only by SBC's non-regulated services, and were able to directly assign those expenses as shared costs to the non-regulated operation. Likewise, Messrs. Starkey and Fischer were able to isolate those expenses that are common or shared costs of the regulated operation to more accurately calculate a common cost factor appropriately applied just to regulated products. This adjustment had a notable downward influence on the common cost percentage which, in Messrs. Starkey and Fischer's opinion, corroborated their opinion that including both regulated and non-regulated expenses in the numerator and denominator, as SBC had done, overestimates common/shared costs specific to regulated products.

For purposes of developing a common cost ratio to be applied exclusively to regulated products/services, data specific to SBC's regulated operations provides a far

better methodological basis upon which to develop that ratio. By using both regulated and non-regulated data, SBC's analysis assumes that the relationship between nonregulated expenses and nonregulated investments is useful in estimating the relationship between regulated expenses and regulated investments. We find that focusing on regulated expenses and investments for purposes of projecting that same ratio into the future is the better alternative.

By removing non-regulated data from the shared and common cost calculation, we can more precisely remove expenses that are generated only by SBC's non-regulated services, and can directly assign those expenses as shared costs to the non-regulated operation. In this way, we are able to isolate only those expenses that are common or shared costs of the regulated operation, providing us an opportunity to more accurately calculate a common cost factor appropriately applied to just regulated products.

Our decision on regulated and nonregulated data applies to common costs, shared costs and all Support Asset costs.

B. Common Cost Factor

2. The 67XX accounts (including retail cost adjustment)

d) Commission Analysis and Conclusion

Exceptions

The Joint CLECs agree with the Commission Analysis and Conclusion at pages 232-233 of the Proposed Order, and simply wish to clarify it. At page 232 (second paragraph of Commission Analysis and Conclusion), the Proposed Order concludes that "retail related expenses should be removed from SBC's common costs in this proceeding as they should be allocated directly to SBC's retail services." Because these costs that are being removed via the application of the avoided wholesale discount factor are direct costs of SBC's retail services, these direct costs that are removed from the common cost numerator should be included, instead, in the common cost denominator, which is comprised of direct costs.

Proposed Replacement Language

Joint CLECs recommend clarifying the "Commission Analysis and Conclusion" at pages 232-233 of the Proposed Order by adding the following sentence at the end of the third paragraph of Section VI.B.2.d:

> The direct costs removed from the 67XX accounts in the common cost numerator should be included as direct costs in the common cost denominator.

4. Pension settlement gains

d) Commission Analysis and Conclusion

Exceptions

The Proposed Order essentially ignores the fact that for each and every year from 1987-2001 – i.e., for fifteen consecutive years – SBC Illinois experienced pension settlement gains. Instead, the Proposed Order narrowly focuses on the fact that in the years 2002 and 2003, SBC did not recognize any pension settlement gains, and recommends that SBC be entitled to reverse the entire pension settlement credit included in Account 6728 for test year 2001. To focus on the most recent two years and to completely ignore the previous fifteen years defies common sense, economic reality, and established Commission ratemaking practice. While no party disputes the fact that the once strong economic markets experienced a downturn over the past couple of years, as the Joint CLECs point out, the current economic indicators and indices reflect an upswing in the market. While it is true that SBC Midwest's unrecognized pension gains turned to losses in 2002, those unrecognized losses have begun to decline. These unrecognized gains and losses have a direct correlation with investment returns from the stock market. As the Joint CLECs demonstrated, the stock market has stabilized and is beginning to exhibit an upward trend as reflected in the trend of the S&P 500 Index. (See AT&T Ex. 1.2, p. 37)

Moreover, SBC recognizes large pension settlement gains when large numbers of its employees take pension buyouts and leave the company. To the extent SBC continues to streamline its workforce through additional job eliminations such as the 20,000 job reductions reported in SBC's 2002 Annual Report and the 3,400 additional job reductions through 3rd quarter 2003 (as SBC reported to the investment community), pension settlement activity is likely to continue throughout the study period for determining its UNE rates (2002-2005). In fact, in its Investor Briefing discussed in the Joint CLECs' Initial Brief (p. 409), SBC stated that it expected force reductions to accelerate from 3rd quarter 2003 levels through 2004. (AT&T/Joint CLEC Ex. 1.2, pp. 37-38) As SBC's unrecognized pension loss situation continues to decline or reverse into a gain position, SBC is likely to experience pension settlement gains in the future. As such, the Commission should include the average pension settlement gain from 1987-2003, as the Joint CLECs recommend. (*Id.*)

By way of analogy, assume that for the years 1987 through 2001, the City of Chicago experienced major snowstorms and that all homeowner or condominium associations included amounts for snow removal costs in their budgets for each of those years. Assume additionally that in the years 2002 and 2003, major snowfalls bypassed the City of Chicago and the associations incurred no snow removal expense. Certainly no homeowner association would, based on the lack of major snowfall over the past two years, remove snow removal expense from its budget altogether simply because of two mild winters, especially given the appreciable snowfall in the fifteen years prior to 2001.

Importantly, no party contends that the entire 2001 pension settlement credit should be added back into Account 6728. The Joint CLECs acknowledge that the credit

in 2001 was larger than the average pension settlement credits SBC experienced in years past and that some degree of normalization is warranted. Hence, the Joint CLECs recommend that SBC be required to add back to Account 6728 an average of SBC's pension settlement credits from 1987-2003 consistent with SBC witness Dominak's Schedule TD-R2.

This is precisely what the Commission has done in prior rate proceedings to normalize other types of expenses that vary from year to year. That is, rather than relying solely on the expenses for the test year – which may be higher or lower than average – the Commission, in rate cases, has adopted average expense amounts calculated over a range of years for expenses such as wind/ice storm damage expense, uncollectibles and turbine generator overhaul expense. For example, in Docket No. 91-0147, *Illinois Power Company Proposed General Increase in Electric Rates,* the Commission, in its Order dated February 11, 1992, determined that it was appropriate to include a normalized level of wind/ice storm expense in the test year operating expenses. The Commission concluded that the normalized level should be calculated based on wind/ice storm expense using the period 1976-1990 as a reasonable base. The Commission also concluded that it was reasonable to eliminate the highest and lowest amounts experienced by Illinois Power over that fifteen year period. See Order dated February 11, 1992, p. 75. In the same *Illinois Power* case, the Commission also reduced the test year expense for turbine generator overhaul expense by concluding that the expense should be normalized using data from 1980-1990. See *Id.* at 76.

Similarly, in Docket 01-0432, *Illinois Power Proposed Revisions to Delivery Services Tariff Sheets and Other Sheets,* rather than ordering the use of the 2000 test

year storm damage expense, the Commission ordered that the appropriate storm damage expense to use in establishing Illinois Power's rates was the average storm damage expense for the five year period from 1996-2000. See Order dated March 28, 2002, p. 28. *See also Illinois Power Company,* Docket Nos. 99-0120 & 99-0134, Order dated August 25, 1999, pp. 34-35, finding that the storm damage expense to use in the test year was the average level of storm damage for the test year and four preceding years and rejecting Staff's proposal to exclude the test year expense data altogether because it was more than twice the expense incurred in any of the preceding four years.

The Commission has also historically normalized uncollectible expenses, particularly in situations where uncollectibles are higher than normal due to volatility in the test year. For example, in Docket Nos. 02-0798/03-0008/03-0009 (Cons.)., *Central Illinois Public Service Company (AmerenCIPS) et al. Proposed General Increase in Natural Gas Rates*, AmerenCIPS argued that, due to rising gas prices (and, therefore in its view, increased uncollectibles), the amount of 2002 test year uncollectible expense should be used rather than an average uncollectible expense from 1998-2002. The Commission rejected AmerenCIPS' position, instead adopting Staff's proposal that a five year average (using uncollectibles from 1998-2003) is a better indicator of the ongoing level of expense than the one test year experienced by the utility. As the Commission concluded: "The Commission concurs with Staff and AG that a five year historical period is a better measure of uncollectible expense than the test year, due to the substantial rise in gas prices during the period. … The Commission agrees with Staff … that the price level for gas is volatile, and will likely ease from the test year level." Order dated October 22, 2003, p. 36.

Proposed Replacement Language

Joint CLECs recommend that the text of the "Commission Analysis and Conclusion" section at page 239 of the Proposed Order be stricken in its entirety and replaced with the following:

SBC contends, and we agree, that the pension settlement gains SBC experienced in test year 2001 were high compared to prior years. The Joint CLECs, recognizing that fact, recommend that rather than ordering SBC to include the entire 2001 pension settlement credit in Account 6728, we order SBC to add back into Account 6728 the average net pension settlement gain from 1987-2003. As we have done numerous times in other rate-setting proceedings, we hereby adopt CLECs' recommendation to include the average net pension settlement gain from 1987-2003 as a means of normalizing the 2001 test year data. We reject SBC's proposal to include nothing in Account 6728 for pension settlement gains because to do so would require that we narrowly focus on the past two years – 2002 and 2003 – and that we ignore the fifteen preceding years, including the data for the 2001 test year. We cannot adopt such an unreasonable and nonsensical result. In fact, as the Joint CLECs aptly note, while SBC did not recognize pension settlement gains in the most recent two years, the current stock market indicators and indices indicate an upward trend. This upward trend, in combination with SBC's recent job reductions and announced workforce reductions, mandate that we account for the very real possibility that SBC will recognize pension settlement gains in the future, as it did for fifteen consecutive years from 1987-2001.

5. Merger Savings

d) Commission Analysis and Conclusion

Exceptions

The Proposed Order's conclusions regarding merger savings are against the manifest weight of the evidence, are contrary to SBC's own testimony in the Commission's *Merger Savings* proceeding,[75] and run contrary to the Commission's *Merger Savings Order* in that docket dated August 13, 2002.[76]

[75] Dockets 98-0252/98-0335/00-0764 (Cons.).

[76] *Interim Order*, Docket Nos. 98-0252/98-0335/00-0764 (Cons.), rel. Aug. 13, 2002 ("*Merger Savings Order*").

In the *Merger Savings* docket, data provided by SBC witness David W. Fritzlen revealed that over 80% of all merger-related savings resulting from the SBC-Ameritech merger would not be captured until the 2002 – 2004 timeframe, and that greater than 55% of anticipated merger savings would not be captured until the 2003 – 2004 timeframe. Thus, SBC's assertion that merger savings realized prior to 2001 are captured in the 2001 data because the data reflects a relevant "run rate" is inconsistent with its own testimony in the *Merger Savings* docket, which indicates that using the 2001 "run rate" fails to capture 80% of the merger savings projected to occur on a going forward basis. Certainly using only 2001 data ignores the vast majority of SBC's merger-related savings that should be captured by its forward-looking cost study (*i.e.*, SBC's savings are accelerating, and use of 2001 data fails to adequately capture the increased savings that will be realized during the "study period" for its UNEs, which is 2002-2005). As SBC witness Mr. Barch testified, using 2002 data rather than 2001 data would provide a better foundation upon which to calculate forward-looking shared and common costs, including a run rate for merger savings. (Tr. 311-314) Accordingly, SBC's 2001 "run rate" likely fails to capture more than 80% of its total merger savings. (AT&T/Joint CLEC Ex. 1.0, pp. 62-63)

In fact, the Commission's *Merger Savings Order*, recognizes that the merger savings credits the CLECs received in that proceeding were only interim measures based on data available as of 2001. In that docket, the Commission clearly acknowledged that the CLECs would receive the benefit of future merger savings via reduced shared and common costs. As the Commission expressly stated:

> By this decision, we are not changing our conclusion in the SBC/Ameritech Merger Order that merger savings ultimately should be

> reflected in updated UNE rates. The issue here is one of time and scope. This reopened proceeding is not the appropriate context in which to address complex UNE pricing issues. We agree with AI, Staff and GCI/City that the one-time credit proposed for the CLECs is an appropriate interim measure and will not operate to deprive the CLECs of updated UNE prices in the future. (*Merger Savings Order*, p. 24)

If, in fact, the 2001 data presented in the *Merger Savings* docket represented the entirety of SBC's merger savings, the above language would have been unnecessary. If the Commission fails to require SBC to reflect forward looking merger savings in its common cost study, the above Commission-ordered language from the *Merger Savings Order* is rendered superfluous. In its *Merger Savings* docket, the Commission relied upon Mr. Fritzlen's sworn testimony regarding future merger savings and, based on that testimony, provided that the credits it was ordering were interim measures and that the CLECs were free to seek additional merger savings via UNE rates. The Commission indicated it would not deprive CLECs of merger savings via updated UNE rates in the future, yet the Proposed Order's adoption of SBC's 2001 merger savings "run rate" – just two years into the merger – does just that.

Proposed Replacement Language:

The text of Section VI.B.5.d of the Proposed Order should be stricken in its entirety and replaced with the following:

We agree with the Joint CLECs that SBC's common cost study must be revised to reflect the merger savings SBC expects to incur on a forward looking basis. Even SBC's own sworn testimony indicates that its 2001 merger savings "run rate" fails to reflect the majority of merger savings predicted by SBC and Ameritech. In our August 2002 Order in the *Merger Savings* docket, we clearly recognized that the merger savings credits we ordered SBC to provide to its retail and wholesale customers were merely interim measures. In fact, we also expressly assured the CLECs that our Order in that docket was not intended to, and would not, deprive them of seeking additional merger savings via updated UNE rates in future rate proceedings. This is that future UNE proceeding. We hereby adopt the Joint CLECs' recommendation to ensure that SBC's common cost allocator accounts for merger savings that SBC itself predicted. We adopted the first shared and common cost allocator applicable to UNEs in 1998, a

year and a half prior to the consummation of the SBC/Ameritech merger. The CLECs have been waiting almost five years for the opportunity to update the shared and common cost allocator to reflect the savings resulting from that merger. We will not require them to wait any longer.

C. Shared Cost Factor

2. Uncollectible expense

e) Commission Analysis and Conclusion

Exception

The Proposed Order's analysis and conclusions fail to take into account the fact – as SBC acknowledges – that SBC's abnormally high uncollectible expense in test year 2001 occurred in a year marked by high risk and volatility. As the prior Commission orders discussed above under "Pension Settlement Gain" demonstrate, the appropriate way to handle such extremes is to employ an averaging or normalization technique. (Tr. 449-450.) The Proposed Order also inappropriately ignores the fact that SBC's bad debt expense dropped significantly from 2001 to 2002 and even more significantly from 2002 to 2003, thereby corroborating the fact – as the Joint CLECs demonstrated – that the wholesale uncollectible amounts used by SBC in its shared cost study are grossly inflated.

The record evidence overwhelmingly supports the Joint CLECs' recommendation. As the Joint CLECs pointed out, although SBC's calculation of "wholesale uncollectible cost" represents the largest single component of its shared and common cost fixed allocator, SBC provides the least amount of information to support it. In fact, the amount of wholesale uncollectible cost SBC includes in its shared cost study is nothing more than a hard coded value, with no back up support, information or

documentation. (AT&T/Joint CLEC Ex. 1.0, pp. 76-80) SBC has utterly failed to meet its burden of proving its proposed amount for wholesale uncollectibles.

Second, by lumping numerous services and products together into a large, generic "wholesale" bucket, SBC's analysis attributes expenses to UNEs that are more appropriately allocated directly to other products (e.g., switched access, special access, resale) given the fact that UNEs bear little similarity to the bulk of SBC's "wholesale services." (AT&T/Joint CLEC Ex. 1.0, p. 78) Despite the fact that SBC has categorized UNEs as a typical wholesale service for purposes of shared cost development, SBC has provided absolutely no information or data to support its implicit assumption that the uncollectibles these other wholesale products experience somehow serve as a good proxy for estimating UNE uncollectibles. Again, SBC has utterly failed to meet its burden of proving those wholesale uncollectibles that are appropriately attributable to UNEs.

Third, the Joint CLECs convincingly demonstrated that 2001 was a particularly anomalous "uncollectible expense" year, representing the largest uncollectible balance SBC has experienced in the recent past (perhaps ever), making it wholly inappropriate to use in a forward looking cost study. Indeed, SBC's own reported uncollectibles for its "wholesale services" were significantly less in 2002 than in 2001. SBC's own reported wholesale uncollectibles dropped even more significantly from 2002 to 2003, even though its revenue associated with those products increased. (Tr. 360-361, 457-458; AT&T Cross Ex. 18P; AT&T/Joint CLEC Ex. 1.0, pp. 80-81) In fact, SBC's own witness, Mr. Dominak, acknowledged on cross examination that SBC's uncollectibles were particularly volatile in 2001 due to CLEC bankruptcies and other high risk

considerations. (Tr. 449-450) Using the allowance method to estimate uncollectibles -- as SBC does -- requires (as SBC itself admits) estimation, judgment and discretion. (Tr. 441)

SBC's application of the GAAP principle of conservatism (Tr. 432-433) in a particularly volatile year would certainly lead one to expect the uncollectible balance to be on the high (conservative) side so as not to overstate SBC's net income. (Tr. 433, 443) Indeed, as discussed above, hindsight has proven this to be the case. SBC's wholesale uncollectibles dropped significantly from 2001 to 2002 and even more significantly from 2002 to 2003. (AT&T Cross Ex. 18P; AT&T/Joint CLEC Ex. 1.2P, pp. 48-49) In fact, SBC witness Mr. Barch, in his December 2002 direct testimony supporting SBC's shared and common cost study, stated that SBC's proposed wholesale uncollectible percentage was conservative, and perhaps understated. (SBC Ex. 17.0, p. 19) That is, as of December 2002, SBC witness Mr. Barch predicted that SBC's wholesale bad debt expense was likely to *increase rather than decrease.* That prediction, of course, has proven to be wholly inaccurate given the fact that SBC's bad debt expense declined significantly from 2001 to 2002 and even more significantly from 2002 to 2003. This further demonstrates that the predictions and estimations SBC made at the time it submitted its cost study – including its uncollectible expense – were erroneously high and overstated SBC's wholesale uncollectibles.

Moreover, SBC used its entire year-end balance in Account 5301 (Bad Debt Expense) as its "wholesale uncollectible" expense. (Tr. 446) According to SBC witness Mr. Dominak, this balance is necessarily the result of judgment, estimation and discretion. (Tr. 441) According to the FCC's Chapter 32 rules that govern SBC's USOA

accounts, Account 5301 tracks only those revenues that were originally deemed uncollectible and does not capture any portion of those amounts that were eventually collected. In response to Staff discovery, SBC identified the amounts that were actually "written off" after being considered "impracticable of recovery." In fact, the amount SBC actually wrote off is much smaller than the amount SBC originally booked to Account 5301 and used in its shared cost analysis. In other words, SBC appears to have eventually collected a large portion of the "uncollectible" amounts it included as uncollectible expense in its shared cost study, thereby significantly overstating the amount of uncollectibles properly attributable to UNEs via the shared cost allocator. (AT&T/Joint CLEC Ex. 1.0, pp. 83-89)

Not only has SBC's bad debt expense trend reversed, contrary to SBC's predictions at the time it filed its direct case, but CLEC bankruptcies have also decreased since SBC filed its shared cost studies based on 2001 CLEC bankruptcies. (AT&T/Joint CLEC Ex. 1.2, p. 51) In addition, contrary to SBC's expectations and as SBC witness Mr. Dominak testified, the WorldCom bankruptcy actually *reduced* SBC's bad debt exposure. (SBC Ex. 17.1, p. 16) Clearly, the primary justification behind SBC's reliance on wholesale bad debt expense to support its cost studies – substantial reserves for CLEC bankruptcies – is no longer sustainable. (AT&T/Joint CLEC Ex. 1.2, p. 52)

In sum, all indicia lead to the fact that SBC's estimated wholesale uncollectibles are inflated. To address concerns regarding potential inaccuracies that may occur from estimating SBC's write-offs, the Commission should adopt Joint CLECs' modified recommendation to require SBC to use an average of the wholesale revenue write-offs

that SBC *actually experienced* from 1998-2003. (AT&T/Joint CLEC Ex. 1.2, pp. 52-53) The Joint CLECs' modified proposal represents the real economic loss SBC actually incurred because it is based on the average write-offs SBC actually recorded from 1998-2003.

The Commission has adopted uncollectible expense proposals similar to the Joint CLECs' proposal in prior orders determining the appropriate amount of uncollectible expense to include in rate proceedings. For example, in Docket Nos. 99-0120 and 99-0134 (Cons.), *Illinois Power Company Petition for Approval of Delivery Services Implementation Plan Pursuant to Section 16-105 of the Public Utilities Act,* the Commission, ruling on the appropriate amount of uncollectible expense amount, adopted the proposal of Staff witness Mr. Gorniak, *who proposed that a four year average percent of amounts written-off be applied to delivery service revenues to arrive at the uncollectible amount*. See Order dated August 25, 1999, pp. 41-42. The Commission recently used the same approach in Docket Nos. 02-0798/03-0008/03-0009 (Cons.), *Central Illinois Public Service Company (Ameren CIPS)*, Order dated Oct. 22, 2003, p. 36. Thus, the Commission has already determined that the Joint CLECs' recommendation to base uncollectibles on the average of amounts actually written off is reasonable and workable.

Proposed Replacement Language

The text of Section VI.C.2.e., "Commission Analysis and Conclusion," at pages 249-250 should be stricken in its entirety and replaced with the following:

We conclude that SBC's calculation of the amount of wholesale uncollectible costs attributable to UNEs is flawed and we hereby reject it. We are extremely concerned with SBC's "wholesale uncollectible cost" calculation for three primary reasons. First, while SBC's calculation of "wholesale uncollectible cost" represents a

substantial component of its shared and common cost fixed allocator, SBC provides the least amount of information supporting this calculation. In short, it has failed to meet its burden of proving the wholesale uncollectible costs it proposes to recover. Second, we agree with the Joint CLECs that the attributes of "wholesale services" as a whole appear to bear very little relationship to UNE products in particular. Again, SBC lumped numerous services and products together into one large bucket generically titled "wholesale products," thereby attributing expenses to UNEs that are more appropriately allocated directly to other wholesale products rather than make an attempt to identify those uncollectible expenses specific to UNEs.

We are also concerned that in an effort to identity "wholesale uncollectible" expense, SBC uses its entire year-end balance in account 5301 to calculate the amount of wholesale uncollectible expense attributable to UNEs – an amount that even SBC concedes is an estimate on its part. According to the FCC's Chapter 32 rules that govern SBC's USOA accounts, Account 5301 tracks only those revenues that were originally estimated as uncollectibles; it does not capture any portion of those write-offs that were eventually collected. In fact, SBC witness Mr. Dominak conceded that the year end 2001 uncollectible expense balance in Account 5301 is nothing more than SBC Illinois' best guess, after assessing the risks at the time, of what amounts will not be collected. SBC does not and has not gone back to verify whether the amounts SBC deemed "uncollectible" in the 2001 test year were, in fact, collected in subsequent years or to verify that its estimation process is rational or sound. To the extent SBC's estimate of uncollectible amounts is less than 100% perfect and *any* of the amounts included in Account 5301 are ultimately collected, SBC's shared cost allocator is, by definition, overstated.

Finally, SBC fails to even mention why it did not take into account the substantial variations in its uncollectibles data over time in deriving a reasonable uncollectibles estimate. In fact, SBC witness Mr. Dominak conceded on cross examination that the test year 2001 uncollectible balance in Account 5301 was subject to a particularly high degree of risk and volatility, yet SBC implemented no smoothing technique to normalize the wholesale uncollectible expenses used in its shared cost numerator. Because there is often a significant difference between the time a particular account receivable is identified as potentially uncollectible and the time it is ultimately written off as uncollectible, some period of time longer than a single year must be used to capture recoverable amounts that may have extended beyond a single year, as the Joint CLECs have done. While we agree that SBC should be allowed to recover, through shared costs or any other mechanism, expenses equal to only those revenues/uncollectibles that it does not ultimately collect, by using the total balance in Account 5301 for purposes of identifying uncollectibles, SBC specifically ignores any and all amounts that will ultimately be collected. Therefore, we hereby adopt the Joint CLECs' proposal and require SBC to use as its wholesale uncollectibles the average write-offs SBC actually recorded in Account 1181 from 1998-2003.

Alternative Exception

In the alternative, to the extent SBC is permitted to use its Account 5301 data, at minimum, the Commission's Order, consistent with the Proposed Order's rationale, must require that data for 2003 be used in the average in addition to data from 2001 and 2002. At page 249, the Proposed Order adopts Staff's proposal to use average data from the two year period 2001-2002. The Proposed Order states "CLECs' proposal to include a five year history would be misleading because it would ignore the realities of developing competition." The Proposed Order implies that using data from 1998, 1999 and 2000 is inappropriate because competition had not developed enough during those years, but that using data from 2001 and 2002 is appropriate because competition had developed by then. Using the Proposed Order's own rationale, then, it is appropriate to include 2003 data in the average wholesale uncollectibles because if competition had developed sufficiently by 2001 and 2002 such that Account 5301 data is appropriate to use in SBC's shared cost numerator, then data from 2003 is likewise appropriate to use in calculating the average wholesale uncollectibles. Mr. Starkey and Mr. Fischer presented this data in AT&T/Joint CLEC Exhibit 1.2 at pages 48-49 and 52-53.

Using 2003 uncollectible data to normalize the uncollectible expense is particularly appropriate because the 2001-2002 data include SBC's estimated uncollectible expense from the WorldCom bankruptcy. As the record evidence indicates, contrary to SBC's initial expectations, SBC has in fact collected the revenues WorldCom owes it, despite the bankruptcy. In fact, in his direct testimony submitted March 19, 2004 in the pending Ohio TELRIC case, SBC witness Mr. Dominak (using 2002 uncollectible data as the test year amount) *excluded* all of WorldCom's "sizable

uncollectible expense from the 2002 data set. *Such a normalization is necessary and sufficient to depict a representative year of SBC Ohio's uncollectible expense*." See Direct Testimony of Timothy Dominak on behalf of SBC Ohio, filed March 19, 2004, Case No. 02-1280-TP-UNC, page 17 (emphasis added).[77] SBC did not make that same normalization here. As such, the 2001 and 2002 data includes WorldCom's uncollectible expense, which SBC now recognizes is inappropriate to include. By including SBC's 2003 bad debt expense in the average, the effect of this over-inclusion will be somewhat offset.

As noted earlier in this Brief on Exceptions, the Commission has historically normalized uncollectibles, particularly in situations where, as here, uncollectibles are higher than normal in the test year as a result of volatility. For example, in Docket Nos. 02-0798/03-0008/03-0009 (consol)., *Central Illinois Public Service Company (AmerenCIPS) et al. Proposed General Increase in Natural Gas Rates*, AmerenCIPS argued that, due to rising gas prices (and, therefore, increased uncollectibles), the amount of 2002 test year uncollectible expense should be used rather than the average uncollectible expense from 1998-2002. The Commission rejected AmerenCIPS' position, adopting instead Staff's proposal that a five year average (using uncollectibles from 1998-2003) is a better indicator of the ongoing level of expense than the test year amount experienced by the utility. As the Commission concluded: "The Commission concurs with Staff and AG that a five year historical period is a better measure of uncollectible expense than the test year, due to the substantial rise in gas prices during the period. … The Commission agrees with Staff … that the price level for gas is

[77]Administrative notice requested. Joint CLECs will file a motion requesting that administrative notice be taken of Mr. Dominak's Ohio testimony.

volatile, and will likely ease from the test year level." Order dated October 22, 2003, p. 36. The Commission should, at minimum, do the same here by incorporating the 2003 data.

Alternative Proposed Replacement Language

Accordingly, in the alternative, the first paragraph of the "Commission Analysis and Conclusion" in Section VI.C.2.e. page 249 of the Proposed Order should be stricken and replaced with the following:

We agree with Staff and Joint CLECs that using data from several years – as opposed to data from just 2001, a year in which wholesale uncollectibles were particularly high given the high degree of risk and volatility – is more appropriate to determine the amount of wholesale uncollectibles to use in SBC's shared cost numerator. We reject CLECs' proposal to include data from 1998, 1999 and 2000 because to do so would ignore the realities of competition. Rather, we order SBC to use an average of data for 2001, 2002 and 2003 in calculating the appropriate amount of wholesale uncollectibles. Given the fact that the 2001 and 2002 data are overstated due to the inclusion of uncollectible expense attributable by SBC to the WorldCom bankruptcy, inclusion of 2003 data in the calculation will mildly offset and normalize the uncollectible expense data from 2001 and 2002.

3. Wholesale marketing expense

f) Commission Analysis and Conclusion

Exceptions

The Joint CLECs applaud the Proposed Order for ordering SBC to remove altogether any amounts for marketing/advertising included in Account 6613 from the wholesale marketing expense included in SBC's shared cost numerator. The Proposed Order erred, however, in rejecting the CLECs' proposal to use a revenue-based mechanism to apportion the remaining wholesale marketing expense between UNEs and other wholesale products, based on a concern that such a mechanism would overallocate marketing expense to other wholesale products and underallocate marketing expense to UNEs.

First, as the Joint CLECs overwhelmingly demonstrated, SBC treats UNEs and UNE purchasers differently than SBC treats its other wholesale products and wholesale customers because UNEs are legally-mandated offerings, often the result of much contention and litigation, and not ones that SBC willingly provides. As Joint CLECs testified, UNE customers do not enjoy the same level or type of sales and support that SBC's retail customers and other wholesale customers enjoy. (AT&T/Joint CLEC Ex. 1.0, p. 74). Thus, UNEs are unique wholesale offerings and ought not be "lumped" in with SBC's typical wholesale services. It is simply not reasonable to assume that UNEs should bear the same level of product management and marketing expenses as do SBC's other wholesale products.

Nor should the Proposed Order reject the Joint CLECs' proposal simply because SBC has failed to provide that portion of its wholesale marketing expense that is, in fact, appropriately attributable to its UNE products and services. SBC, which bears the burden of proof in this proceeding, has chosen not to provide those marketing expenses uniquely attributable to UNEs. As a result, CLECs (and Staff) – who lack the data necessary to precisely calculate what SBC has failed to calculate – have chosen the most reasonably available proxy – UNE revenues. Because a firm's decision to expend money is customarily based on the amount of revenue the firm expects to generate from the products/services, the CLECs' UNE revenue-based recommendation provides a reasonable and viable alternative by which to identify UNE-related marketing costs in the absence of verifiable cost data from SBC. (AT&T/Joint CLEC Ex. 1.2, pp. 40-41.)

Proposed Replacement Language:

The second paragraph of Section VI.C.3.f, "Commission Analysis and Conclusion," at page 253 of the Proposed Order should be stricken and replaced with the following:

We agree with the Joint CLECs that in calculating the amount of wholesale marketing costs to include in the shared cost numerator, SBC's decision to include the entirety of its "wholesale services" that it uses to attribute shared costs (i.e., switched and special access, compensation with independent exchange carriers, Centrex services, ISDN, resale services, services to payphone providers, etc.) into one bucket of which UNEs are a very small part is far too sweeping. Many of these wholesale services are likely to generate costs, particularly marketing costs, which have nothing to do with UNEs and are not comparable to the marketing expenses incurred to provide UNEs. For this reason, many of the costs SBC has identified as "shared" by the entirety of its "wholesale" services can be more accurately allocated as shared or direct to particular wholesale products, thereby resulting in a more UNE-specific shared cost allocation.

While it is not reasonable simply to lump UNEs together with these other products and assume that all products should bear product management and marketing expenses equally, as SBC's analysis does, we do agree that some amount of product management and product sales is appropriately attributable to UNEs even if UNEs do not enjoy the same type of sales and support that SBC's retail products and certain of its wholesale products enjoy. We therefore adopt the Joint CLEC proposal of multiplying the total amount of wholesale marketing costs -- after removing product advertising expenses altogether -- by the percentage of 2001 wholesale revenues attributable to UNEs. Because we are adjusting the shared cost numerator by using UNE revenues, we must also adjust the shared cost denominator and we direct SBC to use UNE revenues rather than wholesale direct costs in its shared cost denominator.

Also, if the above language is adopted, the word "however" should be removed from the first sentence of the final paragraph in the Commission Analysis and Conclusion section at page 253 of the Proposed Order.

4. Calculation of wholesale shared cost denominator

d) Commission Analysis and Conclusion

Exceptions

Consistent with the above discussion regarding the propriety of using a UNE revenue-based mechanism to calculate the amount of wholesale marketing expense

attributable to UNEs, the Commission should require SBC to use 2001 UNE revenues as the wholesale shared cost denominator.

Proposed Replacement Language

The following language should be substituted for Section VI.C.4.d, "Commission Analysis and Conclusion," at pages 257-258 of the Proposed Order:

Because we have adjusted the shared cost numerator using a UNE revenue-based mechanism, to maintain consistency between the shared cost numerator and the shared cost denominator, we hereby order SBC to adjust the shared cost denominator and direct SBC to use UNE revenues rather than wholesale direct costs in its shared cost denominator.

VII. ANNUAL CHARGE AND OTHER FACTORS

A. Annual Cost Factors

1. Adjustments to maintenance and other expense factors

(4) Commission Analysis and Conclusion

Exceptions

The Proposed Order at page 261 erroneously accepts SBC's maintenance factor utilization adjustment, reasoning that SBC's proposed factor holds per unit maintenance expenses constant as fills increase and finding that this proposal is acceptable because it appears to make sense that at higher fill rates, the per unit maintenance expense would actually increase.

The Proposed Order erroneously assumes, as does SBC's analysis, that the same quantity of facilities will be placed regardless of the fills that are adopted. That is simply not the case. SBC's assumption that the per unit maintenance expense will remain constant regardless of the amount of investment (i.e., the amount of facilities placed) is fundamentally flawed. By way of example, as the Joint CLECs showed in their testimony, assume hypothetically that SBC has an existing 600-pair cable that

produces its current maintenance expense. Assume hypothetically that the Commission determines that a higher level of fill is appropriate in an efficient, forward-looking network and that, using that higher level of fill (and less spare capacity), SBC is able to accommodate that same level of demand using a 300-pair cable rather than a 600-pair cable. In this scenario, the Commission-ordered higher fills have resulted in fewer facilities being placed in the forward looking 300-pair cable network than were placed in the embedded, 600-pair cable network. Put simply, because more of the facilities are filled with use, fewer facilities are required. With half as many facilities, what makes sense is that SBC should incur less maintenance expense – not more maintenance expense, as the Proposed Order erroneously concludes. (AT&T/Joint CLEC Ex. 1.2, pp. 54-57.) Thus, SBC's erroneous assumption that the same quantity of facilities must be placed (all of which generate maintenance expense) *regardless of the fill adopted by the Commission* is irrational, unreasonable and nonsensical and must be rejected.

The Proposed Order's adoption of SBC's adjustment is particularly troubling in light of the fill factors it adopts. Essentially, the Proposed Order adopts the Staff's proposal, which is based on adjusting SBC's actual capacity by 7.5% for feeder and DLC components and 15% for distribution components. The result is increases from SBC's actual fill factors in the range of 4% to 8% (see table on p. 50 of Joint CLECs' Initial Brief (proprietary version)). Whether or not the adjustment is appropriate, it is difficult to imagine any basis for assuming higher maintenance costs as a result of raising SBC's low actual fills by just 4% to 8% -- placing them at a level that is still low.

It is highly unlikely that any incremental increase in maintenance costs will occur until the fills reach a level much higher than those adopted by the Proposed Order, if at all.

Even more fundamentally, however, SBC has utterly failed to establish that a direct link exists between network utilization and maintenance costs. SBC's own data – even assuming it is inherently reliable (which Joint CLECs do not and the Commission should not) – demonstrates that there is no linear relationship between utilization rates and maintenance costs.[78] While the Joint CLECs do not completely disagree that some maintenance and administrative costs may increase as fill levels exceed a certain benchmark rate (*i.e.*, target fills), SBC's algorithm creates a linear relationship between utilization and maintenance costs such that for *any incremental increase* in utilization, a corresponding incremental increase in maintenance expense is derived. For SBC's algorithm to be supported in this respect, its analysis would need to indicate a similar linear relationship between utilization levels and operating costs. It does not. As Messrs. Starkey's and Fischer's linear regression analysis convincingly demonstrated, the linear trend-line added to SBC's "analysis" generates an R^2 value of less than 42%. Generally, any R^2 below 80% suggests that there is not a linear relationship between the two variables. Certainly, with an R^2 of less than 42%, it is evident that no such linear relationship exists, contrary to SBC's assumption. (AT&T/Joint CLEC Ex. 1.0, pp. 216-218) In fact, SBC's own analysis demonstrates that utilization rates in the range of 70%-75% produce operating costs no greater than those generated at utilization levels closer to 10%-20%, indicating that the relationship between utilization and increased

[78]As the Joint CLECs pointed out, SBC has made no effort to hold all other variables constant, thereby wholly undermining SBC's "linear relationship" analysis. (AT&T/Joint CLEC Ex. 1.0, pp. 213-216.)

maintenance costs is not linear but rather somewhat geometric. (AT&T/Joint CLEC Ex. 1.0, pp. 212-220.)

Moreover, to the extent the Commission finds that SBC's maintenance utilization adjustment is appropriate at all – and the Joint CLECs contend that it is not, even according to SBC's own data – its application must be limited to copper cabling. The only analysis SBC offered in this proceeding is specific to copper cabling, and there is no record evidence to expand the reach of the adjustment to other types of facilities. SBC's analysis demonstrates nothing about loop-electronics equipment (*i.e.*, digital loop carrier), fiber optic cable, or other types of facilities that constitute a very large portion of SBC's loop costs and which are deployed with the very purpose of reducing maintenance costs. For example, DLC equipment, wholly unlike copper cabling, consists of electronics and line cards. And no one can seriously contend that increasing the fill factor on fiber facilities by the small amount the Proposed Order adopts will increase maintenance costs. Undoubtedly, SBC could not support the application of its adjustment to these dissimilar (to copper cables) facilities, which are specifically engineered to accommodate large volumes of traffic in a significantly modular fashion, unlike copper cabling. (AT&T/Joint CLEC Ex. 1.0, pp. 215-216)

Proposed Replacement Language:

The third full paragraph of Section VII.A.1(4), "Commission Analysis and Conclusion," at page 261 of the Proposed Order should be stricken and replaced with the following:

We also hereby expressly reject SBC's Maintenance Factor Utilization Adjustment since this adjustment is designed to counteract any UNE cost decreases that may occur from raising the utilization levels by increasing maintenance expenses as utilization levels rise. Specifically, SBC has included an adjustment factor within its

ACF model that increases maintenance and other expense factors if the network utilization, or fill, is increased beyond the fill or utilization factors proposed by SBC. The utilization adjustment in SBC's ACF model assumes that as network utilization increases above the fill factors it proposes, its maintenance costs also increase in a linear fashion. SBC has failed to establish a direct link between network utilization and maintenance costs. In fact, as the testimony of Joint CLEC witness Mr. Starkey made very clear, SBC's own supporting data (which SBC failed to adequately explain and describe) overwhelmingly demonstrates the clear lack of a linear relationship between utilization levels and maintenance costs. (See AT&T/Joint CLEC Ex. 1.0, pp. 212-220.) Mr. Starkey's own regression analysis, using the entirety of SBC's own data overwhelmingly demonstrates the clear *lack* of a linear relationship between utilization levels and maintenance expenses. (AT&T/Joint CLEC Ex. 1.0, pp. 216-218).

SBC's model also inappropriately assumes that the same amount of facilities will be placed, regardless of the utilization levels we adopt. As Mr. Starkey's analysis explains, adopting the CLECs' fill factor proposal likely results in fewer total facilities being placed. With fewer total facilities being placed, fewer maintenance expenses will be incurred. As the Joint CLECs demonstrated, SBC's maintenance factor utilization adjustment fails to recognize these reduced maintenance expenses. We are similarly wary of the irrational and unintended effect of this adjustment on UNE rates; accordingly, we agree with the Joint CLECs that SBC's Maintenance Factor Utilization Adjustment results in unwarranted cost increases and we reject it in total.

As a much less preferred alternative and, at minimum, assuming the Commission deems it appropriate to adopt SBC's maintenance factor utilization adjustment at all, the Commission should limit its application by adopting the following alternative language for the third full paragraph of Section VII.A.1(4):

We agree that it is appropriate to apply SBC's maintenance factor utilization adjustment for copper cabling. It seems to make sense that at higher fill rates, SBC will incur increased maintenance expenses. We also agree with the Joint CLECs, however, that the evidence SBC provided to support its adjustment is limited to copper cabling and no record evidence exists to support extending that conclusion to any other types of equipment, such as DLC equipment and fiber. To the contrary, the Joint CLECs convincingly demonstrated that this type of equipment is dissimilar to copper cabling, particularly in terms of maintenance expense at higher levels of fill. Accordingly, we adopt SBC's maintenance factor utilization adjustment for copper cabling only and hereby reject its application to any other types of equipment or investment.

Additional Exception

The Proposed Order also errs in adopting SBC's Service Order Activity Adjustment ("SOAA"), finding that SBC's subsequent Illinois-specific study has

satisfactorily addressed the concerns about SBC's original support for this factor, which was an outdated 1998 study using out-of-region data from Texas, Oklahoma, Kansas, Arkansas and Missouri. (See Proposed Order at 261.)

This Commission has, since the early to mid-1990's, been one of the most aggressive proponents of local competition. Not surprisingly, the level of competition in Illinois has been increasing at a healthy pace over the last couple of years. As the Proposed Order expressly acknowledges at page 249, in fact, the level of SBC's UNE revenues increased from 2000 to 2001 and then again from 2001 to 2002. It is completely nonsensical to assume that while SBC Illinois' UNE revenues have increased steadily and consistently in the past few years, service order activity has not. Clearly it has and, as such, SBC's static view of its SOAA – that is, that forward looking service order activity should be based on 1998 data and an "updated" Illinois-specific study provided in discovery, but not made part of the evidentiary record, that allegedly corroborates the use of 1998 data – must be rejected because it defies both reality and common sense.

SBC's SOAA cannot be reconciled with these fundamental facts. SBC originally propounded an outdated, out-of-region study to support its SOAA in Illinois. Challenged by the Joint CLECs, SBC then produced in discovery a more recent, Illinois-specific "study" that just happens to demonstrate the same level of service order activity as that reflected in states like Arkansas, Kansas and Oklahoma six years ago. With all due respect to the Proposed Order's conclusions, one cannot plausibly contend that the appropriate SOAA to employ in SBC's ACF model in a state where competition and UNE revenues have been steadily increasing is one based on Illinois-specific data that

just happens to coincide with service order activity in SBC's less urban states six years ago. Certainly, the level of service order activity on a forward looking basis in Illinois is much greater than that. Thus, the Commission should adopt the Joint CLECs' proposal, which appropriately accounts for the fact that service order-related activities in Illinois are, on a going forward basis, greater than SBC's support, which is questionable at best.

Proposed Replacement Language

The following language should replace the language appearing in the fourth paragraph of Section VII.A.1(4), "Commission Analysis and Conclusion", at page 261:

We agree with the Joint CLECs that SBC has failed to adequately support its Service Order Activity Adjustment. The CLECs complained that the original proposal was out of date and not Illinois specific. SBC originally relied on outdated, out-of-state and out-of-region data to develop its proposal. After the CLECs lodged those complaints, SBC produced to the CLECs in discovery an allegedly Illinois-specific study that had become available, that it did not submit in this proceeding, and that just happened to support SBC's original SOAA based on the 1998 data from its other out-of-region states. We agree with the Joint CLECs that SBC has failed to meet its burden of proving that the appropriate service order activity adjustment in Illinois should be based on an unidentified Illinois-specific study that happens to support a level of forward looking Illinois service order activity commensurate with the level of service order activity that existed in some of SBC's less urban states six years ago. We will not allow the competitive strides we have made to date to be erased in such a fashion. Accordingly, we adopt the Joint CLECs' adjustments to SBC's SOAA in total.

2. Ad valorem factor

c) Commission Analysis and Conclusion

Exceptions

SBC calculates its ad valorem tax factor as a ratio of book property tax expense to average book investment from the prior calendar year. SBC's use of average book investment in the denominator is not a correct input, however, because it understates the denominator, thereby overstating the ad valorem tax factor. In fact, SBC uses

current cost-to-book cost ("CC/BC") ratios to develop all of its other factors, including its maintenance and other expense, support assets, and shared and common costs factors. Therefore, in calculating the ad valorem tax factor, average book investment must be converted to a current cost basis consistent with the methodology SBC employs to calculate its other cost factors. This conversion increases book values to current replacement values. The use of CC/BC ratios ensures consistency in the time period used to calculate cost factors based upon a relationship of expense to investment. Messrs. Starkey and Fischer made this adjustment by applying a composite CC/BC ratio for total plant investment using SBC's CC/BC ratios by account developed for 2001. (AT&T/Joint CLEC Ex. 1.0, pp. 125-127)

Proposed Replacement Language

The text of Section VII.A.2.c, "Commission Analysis and Conclusion," at page 262 of the Proposed Order should be stricken in its entirety and replaced with the following:

We hereby order SBC to restate its book investment to current cost in the denominator of its ad valorem tax factor. The use of book investment rather than current or replacement cost overstates the ad valorem tax factor. In addition, restating book investment to current cost maintains consistency with the methodology SBC employs to calculate its other cost factors. The use of current cost to book cost ratios also ensures that a consistent relationship exists between the year expenses are incurred and the valuation date of the investment used to calculate the expense to investment cost factor.

E. Productivity Offset

3. Commission Analysis and Conclusion

Exceptions

Joint CLECs take exception to the Proposed Order's conclusions regarding the productivity offset at pages 273-274. The Joint CLECs proposed that no inflation

adjustment or productivity adjustment is warranted because the cost of capital already adequately accounts for inflation. The Proposed Order appropriately adopts that conclusion. See Proposed Order at p. 270.

The Joint CLECs also proposed that a productivity offset is appropriate if, and only if, the Commission adopts SBC's proposed inflation adjustment, because it is economically inappropriate to consider the effects of inflation without also considering, at the same time, the effects of productivity because the two, by their very nature, go hand in hand. That is, because SBC did not factor productivity into its cost studies, it should be prohibited from applying any inflation factor.

The Proposed Order's conclusion on this issue, while it ultimately adopts the Joint CLECs' primary recommendation, erroneously implies that it rejects it, at least in part. For example, the Proposed Order states that it "decline[s] to adopt CLECs' productivity offset." Proposed Order at 273. However, the Joint CLECs only recommended a productivity offset if SBC's additional inflation factor were adopted. It was not. Thus, in light of the Proposed Order's conclusions on SBC's inflation factor, there was no productivity offset to reject.

Moreover, even assuming the productivity offset had not been mooted by the Proposed Order's conclusions on the inflation factor, the conclusions the Proposed Order reached on productivity are belied by the record evidence. The Proposed Order's contention that the Joint CLECs' productivity offset is based on "vague claims of future productivity increases" is wholly undermined by the precise productivity enhancements announced to the financial and investment community just six months ago by SBC executives. While the productivity enhancements announced by Mr. Atterbury last

November may not be as detailed as the Joint CLECs and the Commission might desire, as even SBC witness Mr. Barch testified, SBC's executives do not make these claims to the financial and investment community lightly, and certainly SBC would not and did not announce productivity enhancements that it did not intend to make.

According to Mr. Atterbury's presentation to the financial and investment community, SBC has, in the short term, recently eliminated nearly $1 billion in operations and support costs by workforce reductions and productivity improvements. (AT&T/Joint CLEC Ex. 1.1, pp. 67-68) SBC is also embarking on major long term cost reduction initiatives, including consolidation of call and network centers, creation of one national customer service bureau rather than regional bureaus, consolidated nationwide technical support (rather than regional support), automation of outside plant records and more efficient technician routing designed to save 30 million road miles and 750,000 technician hours annually. (AT&T/Joint CLEC Ex. 1.2, pp. 69-70) According to Mr. Atterbury, these improvements would collectively save SBC $1.3 billion in annual capital and expense by 2006, none of which is incorporated in SBC's cost studies. (AT&T Ex. 1.2, p. 70-71; Tr. 363-369; SBC Ex. 7.2, pp. 33-34) As SBC witness Mr. Barch admitted on cross examination, SBC's cost studies do not take into account any of these recently announced short-term or long-term cost reduction initiatives.

In addition, the Indiana Commission recently prohibited SBC from applying any inflation adjustment because SBC's reliance on the benefits of lower equipment prices, technology substitution and restatement of investment to replacement cost only reflects

the benefits of technology changes related to plant investment and fails to address the much broader spectrum of influences on productivity.[79]

Proposed Replacement Language:

Accordingly, Section VII.E.3, "Commission Analysis and Conclusion," at pages 273-274 of the Proposed Order, should be deleted in its entirety and replaced with the following:

The Joint CLECs recommend that we order an offsetting productivity adjustment if and only if SBC is allowed to apply any inflation factors. Because we reject SBC's inflation factors for the reasons set forth above, we will not order an offsetting productivity adjustment.

VIII. IMPUTATION

B. Joint CLECs' Position

Exceptions

The Proposed Order completely omitted any summary of Joint CLECs' arguments concerning the evidence that SBC's business network access line ("NAL") rates fail the imputation test that SBC submitted in support of its tariff filing in this proceeding. The Proposed Order also omitted Joint CLECs' arguments that SBC's residential retail services fail an imputation test base don SBC's proposed rates in this case. Given that these arguments have not changed, and are relied upon in Joint CLECs' briefs, these arguments need to be adequately summarized in the Proposed Order.

Accordingly, Joint CLECs request that the Proposed Order be revised to include a summary of Joint CLECs' arguments consistent with the proposed replacement language set forth below.

[79] Indiana Order, p. 154.

Proposed Replacement Language

The following text should be inserted following the existing last paragraph in Section VIII.B, "Joint CLECs' Position", at page 281 of the Proposed Order:

Joint CLECs draw attention to the imputation test that SBC conducted of its business NALs for the purpose of supporting the tariff SBC filed proposing increased unbundled loop rates and nonrecurring charges for unbundled loops, UNE-P, new UNE-P and EELs that are the subject of this proceeding. (MCI Cross Ex. 2-P (SBC – Illinois Network Access Line Imputation Cost Study dated 12/20/02) ("SBC 12/20/02 Imputation Analysis")) That imputation test formed the basis of SBC witness Mr. Panfil's testimony which candidly acknowledges that SBC's business NALs fail an imputation test when SBC's proposed unbundled loop rates are imputed to SBC's business NAL. (Tr. 179, 181-82; SBC Ex. 1.0, pp. 23-24)

Joint CLECs acknowledge that there has been much debate about the appropriate manner in which an imputation analysis should be conducted. Nevertheless, they state that the record is clear that the SBC 12/20/02 Imputation Analysis is conservative, i.e., that SBC conducted its 12/20/02 Imputation Analysis in a manner that put SBC's proposed rate increases in the light most favorable to SBC. In this vein, Joint CLECs point to the fact that while SBC assumed that it would receive revenues related to line connection and service order charges for business NALs 100 percent of the time, the record shows, in fact, that SBC waives service order and line connection charges for its business NAL services on a regular basis. (MCI Cross Ex. 3) In addition, SBC's imputation test assumes a "location life" which is more than twice the location life – i.e., the average time that a business NAL customer keeps his or her line in service – that SBC assumes for purposes of its cost studies. SBC's imputation study also imputes a lower cost for ports than the $2.18 tariffed rate that CLECs pay to SBC for an unbundled switching port to provide local service. (Tr., pp. 183-84) All of these things, Joint CLECs contend, demonstrate that SBC's imputation analysis significantly inflates the revenues that SBC actually receives for business NALs, which makes it appear that SBC is closer to passing an imputation test than it actually is.

Joint CLECs aver that even though SBC's imputation analysis is demonstrably conservative, the results of its imputation test are stark and damning. Joint CLECs note that despite its attempts to paint SBC in the most favorable light, the SBC 12/20/02 Imputation Analysis demonstrates that using unbundled loop rates as originally proposed by SBC ($11.62, $23.23, and $26.85 for unbundled loops in access areas A, B and C, respectively), SBC's business NALs exceed total revenues for SBC's business NALs by significant negative margins in each respective access area. (Tr. 212; MCI Cross Ex. 4-P, p. 1) Even under SBC's adjusted proposed rates ($9.03, $17.82, and $20.56 for unbundled loops in access areas A, B and C, respectively), Joint CLECs proved that under the SBC 12/20/02 Imputation Analysis the total imputed costs for SBC's business NALs exceed total revenues for SBC's business NALs, causing SBC to fail the imputation test for Access Areas A, B and C by significant negative margins. (Tr. 212; MCI Cross Ex. 4-P, p. 2)

Moreover, Joint CLECs point out that using Staff's more reasonable proposed unbundled loop rates ($4.97, $8.62, and $10.94 for unbundled loops in Access Areas A, B and C, respectively), Staff's proposed loop rate for Access Area B fails the SBC 12/20/02 Imputation Analysis. Indeed, the record reflects that the only scenarios in which SBC's business NALs would pass SBC's imputation test are when SBC's imputation test utilizes existing unbundled loop rates ($2.59, $7.07, and $11.40 for unbundled loops in Access Areas A, B and C, respectively), unbundled loop rates lower than the existing unbundled loop rates, or Staff's proposed loop rates for Access Areas A and C. (Tr. 216-17; MCI Cross Ex. 4-P, p. 3-4)

Joint CLECs emphasize that the SBC 12/20/02 Imputation Analysis did not include revenue from central office features, local calling and switched access to interexchange carriers, which SBC appears to now claim are appropriately included in an imputation analysis. Thus, according to Joint CLECs, the record again demonstrates that SBC's actions are inconsistent with the arguments that it advances with respect to imputation. While Joint CLECs do not agree that the SBC 12/20/02 Imputation Analysis reflects an appropriately conducted imputation analysis in all respects, it does correctly focus on determining whether SBC's business NAL revenues exceed the imputed costs of providing that service. Joint CLECs argue that SBC obviously conducted what it believed to be an appropriate imputation analysis in support of its filing and, therefore, SBC should not now be heard to complain that its own approach was inconsistent with the imputation requirements of the Public Utilities Act and the Commission's rules.

Based on SBC's conservative 12/20/02 Imputation Analysis, the record reflects that SBC's business NALs fail the imputation test by substantial margins, whether SBC's original proposed rates or its adjusted rates (as filed in rebuttal) are utilized as inputs to the test. Conversely, if existing unbundled loop rates, unbundled loop rates that are lower than the existing rates, or Staff's proposed rates for Access Areas A and C are utilized in SBC's imputation test, SBC's business NAL pass SBC's conservative imputation test. For these reasons, Joint CLECs assert that SBC's proposed rates must be rejected and that SBC's unbundled loop rates cannot be increased beyond the point of which those rates begin to fail the imputation test.

F. Commission Analysis and Conclusion

Exceptions

The Proposed Order inappropriately skirts the issue of whether SBC's proposed wholesale rates cause SBC's competitive business NAL retail services to fail an imputation test. The Proposed Order reasons that the Commission need not decide imputation-related issues in this proceeding because Section 13-505.1 of the Public Utilities Act requires SBC to satisfy an imputation test for each of its competitive

services, noting that this proceeding focuses on setting rates for SBC's noncompetitive service elements consistent with the FCC's TELRIC principles. (Proposed Order, p. 283.) The Proposed Order concludes that the Public Utilities Act does not require imputation to be considered in this particular proceeding and that it would be impossible to determine whether SBC's business NALs fail an imputation test without knowing the final TELRIC rates that the Commission will approve. The Proposed Order expressly declines to determine whether UNE loops are the functional equivalent of network components contained in SBC's retail service offerings.

Despite punting on the issues of whether and to what extent an imputation should be considered in this proceeding, the Proposed Order concludes that it would be inappropriate to lower UNE TELRIC prices as a remedy for a failed imputation test, asserting that whether SBC's competitive services fail an imputation test is not relevant to determining whether rates are consistent with the FCC's TELRIC principles. Based on the assumption that it is impossible to conduct an imputation test until final TELRIC rates are available, the Proposed Order defers the consideration of imputation issues to another day, proposing that SBC be directed to file a petition within 30 days of the date of the Commission's order in this proceeding to initiate a separate proceeding in which all of the imputation-related issues that have been raised in this proceeding will be decided. (*Id*., p. 289.)

Joint CLECs take exception to the Proposed Order's failure to address in any meaningful manner the imputation issues that were raised in the testimony and briefs of the parties to this proceeding, and which the Commission's own rules require the Commission to address in this case. The Proposed Order's conclusions are directly

contrary to the requirements of the Commission's imputation rules that require findings with respect to imputation tests within specified time frames. Moreover, putting off to another proceeding a determination of whether the imputation requirements are met is contrary to the Staff's motion for a limited extension of the period for the Commission to rule upon imputation,[80] as well as the ALJ's ruling on that motion.[81] The Commission and the ALJ do not have the discretion to put off ruling on imputation to another proceeding. As discussed in detail below, the Commission is compelled to rule on imputation in this proceeding.

First, the Commission's rules make clear that imputation requirements are implicated by SBC's request for an increase in its loop rates. Part 792 of the Commission's rules (83 Ill. Adm. Code Part 792, Imputation) sets forth the circumstances in which carriers providing services subject to the imputation requirement must file and satisfy imputation tests. Specifically, Section 792.30 of the Commission's Imputation rule provides, in relevant part, that:

> Circumstances under which [imputation] tests shall be filed include, but are not limited to, the following:
>
> * * *
>
> 3) When any tariff is filed that increases rates for a noncompetitive service or a noncompetitive service element, or its functional equivalent, which is utilized in providing a service subject to imputation. (83 Ill. Admin. Code 792.30(c))

[80]Motion to Require Parties to Register Concurrence, or Refusal to Concur In, an Extension of the Period for the Commission to Rule Upon Imputation, or, In the Alternative, for a Determination that Certain Competitive Services of SBC Illinois Do Not Satisfy Imputation Tests as Required by Section 13-505.1 of the Public Utilities Act Based on the Increases in Wholesale Rates Proposed by SBC Illinois, filed on April 29, 2003 ("Staff's Imputation Motion").

[81]Notice Of Administrative Law Judge's Ruling, issued December 30, 2003 ("ALJ's Imputation Ruling").

SBC Illinois filed its tariffs and accompanying testimony and studies in this proceeding on December 24, 2002. The tariffs in question seek to substantially increase rates for the loop, which is an unbundled network element leased by SBC's competitors to provide retail services in competition with SBC's retail services. It is uncontested that SBC's business NALs are competitive services. (220 ILCS 5/13-502.5(b)) SBC provided with and in support of its direct case filing an imputation test for its business NAL. *See* MCI Cross Ex. 2-P (SBC - Illinois Network Access Line Imputation Cost Study – December 20, 2002). The Commission suspended the tariffs and initiated this proceeding to investigate the propriety of the proposed increase in unbundled loop and nonrecurring rates set forth in SBC's tariffs.[82] Clearly, the imputation requirements contained in Part 792 of Commission's rules are triggered by SBC's rate filing in this case.

Second, the Commission's Imputation rules plainly state that once an imputation test becomes the subject of a docketed proceeding, the Commission must issue a decision within 120 days determining whether the imputation test for each subject service satisfies the imputation requirements of Section 13-505.1. The only exception to this requirement is where all parties to the proceeding agree to extend this deadline. Specifically, Section 792.30 of the Commission's Imputation rule provides, in relevant part, that:

> In the event the tests become the subject of a proceeding as a result of the suspension of the tariffs pursuant to Section 9-201 of the Act …, the Commission shall issue an order within 120 days determining whether the imputation test for each subject service and the result of the test satisfy the requirements of Section 13-505.1 of the Act. The 120-day

[82]Illinois Bell Telephone Company Filing to Increase Unbundled Loop and Nonrecurring Rates, Docket 02-0864, Suspension Order, issued December 30, 2002.

> requirement, if applicable, may be extended by agreement of all parties to the proceeding. (83 Ill. Admin. Code 792.30(d) (emphasis added).)

Third, there was no agreement in this case to extend the imputation determination beyond the time that the Commission issues its final Order in this proceeding. Staff's Imputation Motion was filed on April 29, 2003. The relief sought by the Staff's Imputation Motion was, among other things, to require:

> …parties to state whether they concur in, or decline to concur in, extending the time for Commission action through and including the time that it issues its Final Order in this proceeding. The Staff further requests that those parties that elect not to respond be deemed to have concurred in such extension. Finally, the Staff requests that inasmuch as if there is no extension the Commission must act on this matter by June 4, 2003, the schedule for responses be expedited. In the alternative, and to the extent that such unanimous agreement cannot be reached, the Staff requests that the Commission enter an order determining that SBC Illinois' imputation tests for business access lines and the results of the test do not satisfy the requirements of Section 13-505.1 of the Act. (Staff's Imputation Motion, pp. 5-6, (emphasis added).)

With the exception of SBC, the parties who filed responses to Staff's Imputation Motion agreed to extend the time for the ruling on imputation until the final Order is issued in this proceeding.[83] SBC disagreed that the requirements of Section 792.30(d) apply to its tariff filing, but argued if the Commission concludes that they do apply "…Staff's proposal regarding extension of the time limit is reasonable. As requested by Staff, SBC Illinois hereby agrees to extend the 120-day period through and including the time the Commission issues its Final Order in this proceeding."[84]

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[83] *See, e.g.,* Responses of MCI, Covad, Z-Tel, Allegiance, McLeodUSA, NuVox Communications, RCN, TDS MetroCom, AT&T, Attorney General and the Citizens Utility Board, filed May 6 and May 7, 2003.

[84] SBC Illinois Response to Staff Motion Regarding Imputation and Conditional Request for Waiver, filed May 6, 2003 (emphasis added).

Thus, because there is no agreement among the parties to extend the deadline for Commission action on the imputation issues beyond the Commission's final Order in this proceeding, the Commission's Imputation rules dictate that the Commission must determine in its final Order in this proceeding whether SBC Illinois' imputation test for business access lines and the results of the test satisfy the requirements of Section 13-505.1 of the Public Utilities Act.

Fourth, the ALJ's ruling on Staff's Imputation Motion further buttresses the conclusion that the Commission must make imputation determinations by the time the final Order is issued in this proceeding. The ALJ's Imputation Ruling provided as follows:

> Notice is hereby given that Staff's Motion, regarding the deadline for imputation tests, is granted by the Administrative Law Judge, insofar as the 120 day deadline is waived. No party present at the December 19, 2003 hearing objected to the extension of time. Similarly, no party that filed a response to Staff's Motion refused to concur in the extension. Although SBC indicated that it did not agree with Staff's interpretation of the statute, it does not oppose the extension of time. The Administrative Law Judge deems all parties that have not filed a response to Staff's Motion to be in agreement with the extension of time and, therefore, the imputation test issues will be decided with the rest of the issues presented in SBC's filing. This ruling does not reach a decision on any issue raised in the Motion, or responses thereto, other than the request for extension of time. (ALJ's Imputation Ruling, p. 1 (emphasis added).)

For all of the foregoing reasons, the Proposed Order's conclusion that the Commission can defer making a decision on imputation issues is directly contrary to the Commission's rules, the expectations and agreement of the parties as to when determinations concerning SBC's compliance with imputation would be rendered, and the ALJ's Imputation Ruling.

Joint CLECs also take exception to the Proposed Order's inference that imputation issues need not be addressed in this case because Section 13-505.1

requires SBC to satisfy an imputation test for each of its competitive services and this proceeding focuses on setting rates SBC's noncompetitive service elements consistent with the FCC's TELRIC principles. Not only is that conclusion inconsistent with the Commission's rules that clearly require SBC to pass imputation tests for its competitive services when it proposed to raise wholesale UNE rates, but the FCC has made it clear that state commissions are free to impose imputation requirements even though the FCC declined to graft into its rules a national imputation requirement. Relying in part on the comments of this Commission, the FCC found that state commissions can impose imputation requirements when setting TELRIC rates:

> We give special weight to the comments of several state commissions that currently employ imputation rules. [footnote omitted] These state commissions endorse imputation as a tool to prevent price squeezes, but urge us only to provide states with the flexibility to adopt imputation rules. We agree with those state commission commenters that argue that nothing in the 1996 Act prohibits individual states from adopting imputation rules. While an imputation rule may be pro-competitive, we will leave the implementation of such rules to individual states for the time being.[85]

The FCC has plainly found that there is nothing in the Telecommunications Act that prevents states from implementing and enforcing imputation rules to prevent price squeezes. Since the General Assembly has enacted such a requirement and the Commission has adopted rules implementing those requirements, the Commission is compelled to implement the requirements of the statute and its rules in this proceeding.

Furthermore, Joint CLECs take exception to the Proposed Order's conclusion that it would be inappropriate to lower UNE TELRIC prices as a remedy for a failed imputation test and its assertion that whether SBC's competitive services fail an imputation test is not relevant to determining whether rates are consistent with the

[85]Local Competition Order, ¶850.

FCC's TELRIC principles. As discussed above, the FCC and the Telecommunications Act do not preclude enforcement of state imputation requirements. Pursuant to Section 13-505.1 of the Public Utilities Act and the Commission's Part 792 imputation rules, violations of the statute and the rules may be remedied by either raising competitive retail rates that are subject to the statute and rules, lowering UNE rates that must be imputed to the retail rates, or some combination of increases in retail rates and reductions in UNE rates. The Proposed Order errs by finding otherwise.

In addition, Joint CLECs take exception to the Proposed Order's conclusion that it would be impossible to determine whether SBC's business NAL rates fail an imputation test without knowing the final TELRIC rates that the Commission will approve. The record is replete with evidence of how SBC's business NAL rates fail an imputation test -- whether it is the business NAL imputation test SBC submitted in support of its tariff or the imputation analyses conducted by Staff or Joint CLECs – and whether using SBC's originally proposed unbundled loop rates or its revised proposed unbundled loop rates. Similarly, the record contains sufficient evidence of unbundled loop rates that would allow SBC to pass an imputation test for SBC's business NALs. The fact that the final TELRIC rates are not known at this time does not prevent the Commission from making findings based on the record evidence that SBC's proposed unbundled loop rates cause SBC's business NALs to fail an imputation test while Staff's proposed loop rates (with one minor exception) and Joint CLECs' proposed loop rates would allow SBC's business NALs to pass the very imputation test that SBC submitted in support of its tariff filing. Based on this evidence, the Commission can reach conclusions about imputation without knowing what the final TELRIC rates will be.

Joint CLECs also take exception to the Proposed Order's conclusion that it need not determine whether the UNE loop is the functional equivalent of network components contained in SBC's retail service offerings. Section 13-505.1 and the Commission's imputation rule clearly contemplate that rates for UNEs, including UNE loops, must be included in a properly conducted imputation test. If that were not the case, the Commission's imputation rules would have specifically have exempted UNEs from imputation requirements. The Commission conducted a rulemaking in Docket 99-0536 through which it updated its imputation rules (83 Ill. Adm. Code Part 792) effective December 15, 2002. In that proceeding, SBC argued that the unbundled local switching UNE should not be imputed at tariffed rates because CLECs were not actually using that particular service element to provide service to their end user customers in all instances.[86] The Commission rejected SBC's argument that would have narrowed the reading of the Commission's imputation requirements, finding that ". . .an imputation test is intended to prevent an anti-competitive price squeeze with respect to services or service elements that are or may be used by a competitor, not just to protect only those competitors who are currently using such services or service elements."[87] In so doing, the Commission made clear that tariffed rates for UNEs -- including those that CLECs may not be required to purchase from SBC in all instances in order to provide service to their end user customers – must be included in a proper imputation test. If the Commission were going to exempt any UNEs from imputation requirements it could

[86]*Revision of 83 Ill. Admin Code Part 792*, Docket 99-0535, Order, June 19, 2002, 2002 Ill. PUC LEXIS 565 ("Imputation Rule Order"), at *62-*63.

[87]Imputation Rule Order, at *113-*114.

have done so in December 2002. It did not. The Commission need not revisit this issue as the Proposed Order contemplates, since it has already been decided.

Indeed, this conclusion is fully consistent with the position that SBC espoused when it conducted an imputation test for a standalone residential NAL in Docket 98-0860. In that case, which SBC referred to in its response to Staff's Imputation Motion, SBC acknowledged that the tariffed rates for unbundled loops are appropriately included in a properly conducted imputation test for a NAL. In that case, SBC argued the same point it did in the imputation rulemaking concerning its belief that unbundled local switching should be imputed at Long Run Service Incremental Cost ("LRSIC"), not tariffed rates, but SBC conceded that unbundled loops should be imputed at tariffed rates. SBC stated:

> Another issue with respect to imputation was whether the tariffed rate for an unbundled network element ("UNE") port should be imputed as part of the access line imputation test. For the network access lines that were declared competitive in this proceeding, Ameritech Illinois imputed the tariffed UNE rates for unbundled loops (but not ports), the cross connect fee, and the service coordination fee. (Ameritech Illinois Ex. 4.0, p. 6). Ameritech Illinois did not impute the tariffed UNE port rate because competitors do not buy ports and do not use them in providing their competitive services.[88]

Thus, in Docket 98-0860 SBC specifically recognized that tariffed rates of unbundled loops should be included in imputation tests, even though it argued, as it did in the imputation rulemaking proceeding in Docket 99-0536, that unbundled local switching should be included in imputation tests at LRSIC and not at tariffed rates. For

[88] *Investigation into Specified Competitive Tariffs To Determine Proper Classification of The Tariffs*, Docket 98-0860, Opening Brief of Illinois Bell Telephone Company d/b/a Ameritech Illinois, filed June 30, 2000, p. 52. SBC cited to the Proposed Order in Docket 98-0860 in its response to Staff's Imputation Motion at page 5. To the extent necessary, Administrative Notice of SBC's Brief in Docket 98-0860 is requested pursuant to Section 200.640 of the Commission's rules.

all of these reasons, the issue of whether the proposed unbundled loop tariffed rates should be included is a settled issue, despite the inferences to the contrary in the Proposed Order.

Joint CLECs will not reiterate here all of their arguments concerning why SBC's UNE tariff filing causes SBC's business NALs to fail imputation and its residential retail NALs to fail imputation. Rather, all of the arguments contained in Joint CLECs' Initial Brief and Reply Brief are incorporated herein by reference. (See Joint CLECs' Initial Br., pp. 411-433; Joint CLECs' Reply Brief, pp. 199-209.) The Joint CLECs' arguments are also summarized in Section VIII.B, "Joint CLECs' Position," at pages 274-281 of the Proposed Order (which Joint CLECs have proposed, above, be expanded to more completely summarize Joint CLECs' evidence and arguments concerning the failure of SBC's proposed UNE rates to pass an imputation test). The Joint CLECs request that the Proposed Order be revised consistent with these arguments and the proposed replacement language set forth below.

Proposed Replacement Language

Section VIII.F, "Commission Analysis and Conclusion," at pages 283-284 of the Proposed Order should be deleted in its entirety and replaced with the following:

The PUA and the Commission's rules contain imputation requirements that are designed to protect competition. Section 13-505.1 of the PUA and Code Part 792 (83 Ill. Admin. Code 792), "Imputation", which apply only to those telecommunications carriers that provide both competitive and noncompetitive services, require the filing of an imputation test with respect to all competitive services that rely on noncompetitive services or noncompetitive service elements for the provisioning of the competitive service. Part 792 sets forth the rules governing the filing and performance of any such imputation test. Section 13-505.1, which provides the statutory basis for Part 792, provides in pertinent part:

> . . . If a carrier provides noncompetitive services or noncompetitive service elements to other telecommunications carriers for the provision by the other carriers of competitive services, switched interexchange services, or

> interexchange private line services or to other persons with which the telecommunications carrier also competes for the provision by those other persons of information or enhanced telecommunications services, as defined by the Federal Communications Commission, then the telecommunications carrier shall satisfy an imputation test for each of its own competitive services, switched interexchange services, or interexchange private line services, that utilize the same or functionally equivalent noncompetitive services or noncompetitive service elements. (220 ILCS 5/13-505.1(a))

The foregoing section of the PUA further provides that "[t]he purpose of the imputation test is to determine whether the aggregate revenue for each service exceeds the costs, as defined in this Section, to be imputed for each service based on the telecommunications carriers' own routing arrangements." The "costs" to be imputed, in turn, "shall be defined as the sum of: (1) specifically tariffed premium rates for the noncompetitive services or noncompetitive service elements, or their functional equivalent, that are utilized to provide the service; (2) the long-run service incremental costs ["LRSICs"] of facilities and functionalities that are utilized but not specifically tariffed; and (3) any other identifiable, long-run service incremental costs associated with the provision of the service." (220 ILCS 5/13-505.1(a)) The general purpose of the test is to ensure that retail prices for a competitive service properly exceed imputed costs where a single carrier provides the competitive services at retail, and wholesale inputs are used by other carriers to compete in the retail markets for the associated services.

In addition, Part 792 of the Commission's rules clarifies the situations in which imputation tests must be satisfied. Section 792.30(c)(3) explicitly establishes the circumstances under which imputation requirements must be met:

> Circumstances under which [imputation] tests shall be filed include, but are not limited to, the following:
>
> * * *
>
> 3) When any tariff is filed that increases rates for a noncompetitive service or a noncompetitive service element, or its functional equivalent, which is utilized in providing a service subject to imputation.

We agree with the Staff and Joint CLECs that the requirements of Section 13-505.1 of the PUA and Part 792 of the Commission's rules apply in this proceeding. It cannot be disputed that SBC Illinois provides both competitive and noncompetitive services. Nor can it be disputed that SBC Illinois provides noncompetitive service elements, including unbundled loops, to other telecommunications carriers for the provision by the other carriers of competitive services, switched interexchange services, or interexchange private line services. We further agree with Staff and Joint CLECs that SBC's UNEs, including its unbundled loops, are noncompetitive service elements (or

their functional equivalent) sold to competing carriers, who use these as inputs to enable provision of their own competing retail services. We find that statutory references to "...noncompetitive service elements..." and "…their functional equivalent…" directly encompass UNEs, including unbundled loops. We note that the determination that unbundled loop rates must be imputed to SBC's competitive services is consistent with the position that SBC took in Docket 99-0535, in which the Commission revised its Part 792 imputation requirements, and in Docket 98-0860, in which SBC's predecessor, Ameritech, had proposed reclassifying certain residential retail services as filed imputation tests that imputed tariffed rates of unbundled loops to Ameritech's retail NALs.

Moreover, it is uncontested that Section 13-502.5(b) mandated that SBC Illinois' business access lines are competitive under the PUA. (220 ILCS 5/13-502.5(b)) Consequently, we find that the PUA and the Commission's rules require that SBC Illinois "shall satisfy an imputation test for each of its own competitive services, switched interexchange services, or interexchange private line services, that utilize the same or functionally equivalent noncompetitive services or noncompetitive service elements." (220 ILCS 5/13-505.1(a)) We find wholly unpersuasive SBC's arguments that the imputation requirements of Section 13-505.1 of the PUA and Part 792 do not apply to its proposed unbundled loop rate increases in this case. SBC's position is wrong as a matter of law and if accepted would render the imputation requirements of Section 13-505.1 of the PUA and Part 792 of the Commission's rules meaningless.

With these determinations made, we turn to the Joint CLECs' contention that because SBC cannot lawfully raise business NAL rates to satisfy the imputation test until July 1, 2005, SBC's unbundled loop rates and associated nonrecurring charges can only be raised to the extent that SBC's business NALs pass a properly performed imputation test based on the current business NAL rates. In support of this position, Joint CLECs observe that Section 13-502.5(b) of the PUA capped rates as of May 1, 2001 that SBC can charge business customers with four or fewer lines, and that rates charged to those customers cannot exceed those rates until July 1, 2005. (220 ILCS 5/13-502.5(b) (emphasis added))

The Commission agrees that whatever rates are determined in this case must comply with the imputation requirements of the PUA and, to the extent that such rates are constrained by the rate caps the General Assembly imposed on business NALs, that is a consequence of the General Assembly's codification of Section 13-505.2(b). The General Assembly must be deemed to have been aware of the imputation requirements of Section 13-505.1 of the PUA when Section 13-502.5(b) was enacted and became effective June 30, 2001, so it must be presumed that the General Assembly was fully aware of the impact that the enactment of 13-502.5 would have on SBC's ability to raise UNE rates. Further demonstration of this legislative knowledge is found in the fact that in enacting Sections 13-408 and 13-409 of the PUA in May 2003, the General Assembly stated that the unbundled loop rate increases mandated by those sections would not be subject to the imputation test requirements of Section 13-505.1. Thus, by constraining SBC's ability to raise rates for business NALs, the General

Assembly also constrained SBC's ability to raise rates for unbundled network elements that SBC utilizes to provide business NALs, at least until July 1, 2005.

We agree with Joint CLECs that as a general matter violations of the imputation requirements of 13-505.1 and Part 792 can be cured in two ways: either the rates for the noncompetitive services or noncompetitive service elements that are utilized to provide SBC's competitive service must be reduced, or the rates for its competitive retail services that utilize those noncompetitive elements must be increased until the imputation requirements are satisfied. Because business NAL rates for SBC's business customers with four or fewer lines are capped until July 1, 2005, those rates cannot be raised in order to satisfy the imputation requirements of Illinois law. To the extent that this result requires SBC's unbundled loop rates to remain at their current levels or be raised only to the point that SBC can still pass an imputation test for a standalone business NAL, we are not particularly concerned, since we found SBC's current UNE rates to be consistent with the FCC's TELRIC principles. Indeed, we note that SBC sought and was granted the authority to provide in-state interLATA services pursuant to Section 271 of the Telecommunications Act on that very basis. Hence, while somewhat higher rates could also be consistent with the FCC's TELRIC principles, SBC's existing rates are as well.

While we have directed that SBC's cost studies be rerun pursuant to our other findings in this Order, we will require that the resulting rates they produce pass a properly conducted imputation test – a test that imputes to SBC's standalone business NAL the unbundled loop rates produced by properly rerun cost studies. Until we determine what rates pass such a test, we direct that the existing UNE rates, which we have found to be consistent with the FCC's TELRIC principles and rules, remain effective.

In sum, we find that the requirements of Section 13-505.1 of the PUA and Part 792 of the Commission's rules apply to SBC's filing in this case. SBC's wholesale UNE rates can only be raised to the extent that its existing business NAL rates pass an imputation test. The record in this proceeding demonstrates that SBC's business NAL rates fail even SBC's conservative imputation test that was filed in support of its tariff on December 24, 2002, using either SBC's original or its latest revised rates. Nevertheless, while we reject the rates as proposed by SBC, we direct the cost studies to be rerun using the determinations contained in this order. Should the resulting rates pass a properly conducted imputation test for standalone business NALs, those rates will be allowed to become effective. Should the resulting rates fail to pass a properly conducted imputation test, the rates must be reduced to the point at which they do pass a properly conducted imputation test.

IX. OTHER LEGAL ISSUES

A. Preemption, Tariffing and Related Issues

6. Commission Analysis and Conclusion

The Proposed Order starts out on the right foot in this section but then unfortunately falls off the track. The Proposed Order correctly states at the outset of its conclusion on preemption and tariffing issues:

> In our view, there is no doubt that SBC voluntarily sought and filed rate increases pursuant to Section 9-201 of the PUA. Moreover, SBC has had ample opportunity to argue that this docket is procedurally incorrect. Indeed, the Commission gave SBC the opportunity to refile its cost studies with updated numbers and SBC could have, at that time, re-captioned this proceeding as a generic ratemaking pursuant to Section 252. SBC's quest for higher rates is far from compulsory and, in fact, opposed by Commission Staff. (Proposed Order, p. 288)

Moreover, the Commission throughout has continued to treat this case as a Section 9-201 tariff proceeding. (220 ILCS 5/9-201) The Commission permanently canceled SBC's proposed tariffs at the end of the first suspension period in May, 2003, because it was concerned that those tariffs would otherwise go into effect by operation of law. The Commission then re-opened the original Section 9-201 proceeding in December 2003, treated the case as still subject to the suspension provisions of Section 9-201, resuspended SBC's proposed tariffs for an additional six months (as it is allowed to do under Section 9-201), and mandated a June 16, 2004 final order date.[89] The Commission maintained this posture of the case thereafter despite submissions by various parties that called into question whether this docket could still proceed as a Section 9-201 tariff proceeding – the Commission issued no further orders changing the nature of this docket, and expressly *denied* the motion of certain CLECs to revise the Reopening Order and to extend the procedural schedule beyond the end of the six-month resuspension period.[90] Further, as accurately noted in Section II.A.1 of the

[89]See Order Reopening Proceeding and Resuspending Rates, December 16, 2003.

[90]See Notice of Commission Action, February 11, 2004.

Proposed Order, SBC stated in this case that the rates approved in this docket "will be incorporated into SBC's existing tariffs prior to an orderly transition away from those tariffs . . . ."

However, the Proposed Order then abruptly deviates from the obvious conclusion that this proceeding is a Section 9-201 tariff proceeding, to conclude that "The tariffs that will result from this proceeding, however, will only be available to carriers that entered into an interconnection agreement with SBC." (Proposed Order, p. 288) Although Joint CLECs would not object to a conclusion that this docket can also be treated as a generic proceeding to establish UNE prices under Section 252 of the Telecommunications Act (a conclusion expressed in Section II.A.6 of the Proposed Order), the Commission cannot at this point abruptly terminate the Section 9-201 character of this case without prior formal action by either or both of SBC and the Commission. As shown above (and as the Proposed Order itself recognizes), this has not occurred in this case. In short, this case both began and was continued throughout as a Section 9-201 tariff case, and the Commission cannot change the statutory character of the case by fiat in the final Order.

Moreover, the Proposed Order's interpretation of the *Bie-Strand* line of cases ("CLECs may not purchase UNEs directly from the tariff that will be the result of this proceeding without negotiating an interconnection agreement with SBC") is incorrect. Those cases hold, at most, that a state commission cannot *force* an ILEC to provide UNEs pursuant to a tariff to CLECs that have not entered into an interconnection agreement. Here, as the Proposed Order finds, SBC is *voluntarily* offering the products and services that are the subject of this docket pursuant to tariff. While SBC has

indicated an intention to engage in an "orderly transition away" from tariffs at some point in the future (see Proposed Order, Section II.A.1), whether and how SBC can do this is not the subject of this docket and is a dispute to be fought out in a future proceeding. Further, after all the effort that has gone into this proceeding, it would be preposterous for the Commission to state, as the Proposed Order would have it do in the fourth paragraph of this section, that the results of this case are merely advisory and non-binding.

Finally, with all due respect, this Commission has no basis or authority to direct the parties as to the court (state or federal) to which they would have to appeal the Order in this case, as the Proposed Order appears to try to do in the last sentence of this section. (Proposed Order, p. 289)

Accordingly, everything after the second paragraph in the "Commission Analysis and Conclusion" section should be deleted, with the exception of the direction to file tariffs in compliance with the conclusions of the Order, and the following sentence: "Additionally, the Commission notes that the rates adopted herein do not impact existing agreements, except to the extent required by provisions within the interconnection agreements themselves."

Proposed Replacement Language

Section IX.A.4, "Commission Analysis and Conclusion", of the Proposed Order should be revised as follows:

In our view, there is no doubt that SBC voluntarily sought and filed rate increases pursuant to Section 9-201 of the PUA. Moreover, SBC has had ample opportunity to argue that this docket is procedurally incorrect. Indeed, the Commission gave SBC the opportunity to refile its cost studies with updated numbers and SBC could have, at that time, re-captioned this proceeding as a generic ratemaking pursuant to Section 252.

SBC's quest for higher rates is far from compulsory and, in fact, opposed by Commission Staff.

We do not believe that the caption or procedural posture of this docket in any way impacts the substantive nature of this proceeding. Given that SBC filed its rates before the *Bie* decision, it was reasonable at the time to assume that Section 9-201 was an acceptable vehicle for such decisions. Further, SBC indicated, in filings in this docket subsequent to the *Bie* decision, that it would incorporate the rates approved in this docket into its tariff, which is available to both CLECs that have entered into interconnection agreements with SBC (in accordance with the terms of those agreements) and those that have not. If SBC now wishes to restrict the applicability or availability of its tariff based on recent court decisions, it should do so through a separate filing (as in fact it has indicated it intends to do). We find that any proposal that would restrict the applicability or availability of SBC's tariff is not at issue in this proceeding. If SBC wishes to raise this issue it should do so through a filing initiating a separate proceeding. Until such time, this issue is not ripe for adjudication. Whether and how SBC might be allowed to impose any restrictions on the applicability or availability of its tariff can be litigated in a future proceeding. In short, neither SBC nor this Commission has taken any action during the course of this docket to change its nature as a Section 9-201 tariff investigation and suspension proceeding.

~~Whether or not SBC voluntarily made this filing is not the central concern stated by the Seventh Circuit in *Bie*. Rather, it is clear from the *Bie* decision that CLECs may not purchase UNEs directly from the tariff that will be the result of this proceeding without negotiating an interconnection agreement with SBC. The Sixth Circuit raised a similar concern in *Verizon v. Strand*, when it vacated state tariffs and noted that:~~

> ~~the MPSC order permits competitors to purchase the services and elements directly off of the tariff menu, obviating the need to negotiate or arbitrate an interconnection agreement. *Verizon North, Inc. v. John G. Strand*, 309 F.3d 935, 939 (Sixth Circuit)(2002)("*Verizon v. Strand*").~~

~~The tariffs that will result from this proceeding, however, will only be available to carriers that enter into an interconnection agreement with SBC. The prices contained in the tariff are to be treated as a means to aide negotiations between the parties. The prices contained in a final interconnection agreement may be lower or higher than those contained in the tariff based on the give and take inherent in the negotiation process.~~

Accordingly, we direct SBC to file tariffs in accordance with the decision contained herein. ~~that will incorporate the following language:~~

> ~~The following tariffs contain rates approved by the Illinois Commerce Commission as being compliant with the TELRIC requirements of the Telecommunications Act of 1996 and the directives of the Federal Communications Commission. The tariffs are intended to facilitate the~~

~~required negotiation process between SBC and carriers seeking to enter into interconnection agreements with SBC. SBC and competitive carriers may adopt these rates in whole or in part, if at all, as part of the negotiation process required by the Telecommunications Act of 1996.~~

Additionally, the Commission notes that the rates adopted herein do not impact existing agreements, except to the extent required by provisions within the interconnection agreements themselves.

The various court decisions make clear that we may not circumvent the procedural process laid out in TA96. Part of that process involves review by federal courts and only federal courts. This proceeding only concerns a question of federal law and no state law is implicated. A caption that was in place prior to these various court decisions should not impact the appeal of this proceeding only in the federal courts.

X. FINDINGS AND ORDERING PARAGRAPHS

Exceptions

Consistent with Joint CLECs' exceptions to the Commission Analysis and Conclusion on Section VIII, "Imputation", above, Finding (6) and the fourth ordering paragraph should be deleted in their entirety.

CONCLUSION

For the reasons set forth in this Brief on Exceptions, the Commission should revise the Proposed Order in accordance with Joint CLECs' exceptions and arguments herein, and as so revised, should adopt the Proposed Order as the final Order in this proceeding.

Respectfully submitted,

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